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ECONOMIC AND INDUSTRIAL AFFAIRS

No. 2321



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CEMA PROBLEMS OF FUEL ECONOMICS, TURNOVER ANALYZED

Warsaw HANDEL ZAGRANICZNY in Polish No 4, 1982 pp 23-26

[Article by Jerzy Zdanowicz: "Problems of Fuel Economics and Turnover of the CEMA Countries"]

[Text] Almost all the CEMA countries have a characteristically very high energy-intensive national income. According to the mid-1970s data, consumption of prime energy in relation to national income was considerably higher in the European CEMA countries than in most Western countries.

One can judge on the basis of the data on consumption of energy and evolution of the national income (for the CEMA countries) or GNP (for the capitalist countries) that in the years 1973-1979 the differences in energy intensiveness have slightly changed in favor of the CEMA countries. The energy intensiveness of the respective national incomes in the years 1973-1979 has decreased: in Romania, 19.1 percent; GDR, 15.4 percent; Bulgaria, 13.0 percent; Czechoslovakia, 11.5 percent; Hungary, 4.7 percent; Poland, 0.4 percent; Soviet Union, 2.8 percent. Four countries among the developed capitalist countries have recorded a drop of over 10 percent in the energy intensiveness of their national incomes. In 10 other countries under study a drop of less than 10 percent in energy intensiveness was noted, and an increase of energy intensiveness occurred only in the Netherlands, Norway, Australia, and South Africa.¹

One of the basic reasons for the high energy intensiveness of the CEMA countries' national income is their prime energy's structure of consumption. Because the CEMA countries use solid fuels much more commonly than do the developed capitalist countries. In 1979, in the six European CEMA countries (excluding the USSR)² solid fuels constituted about 62 percent of total energy consumption; in the USSR it was 34 percent, while in the developed capitalist countries it was 23 percent.

The next reason for the relatively high energy intensiveness of the national income is the material-intensiveness structure of the CEMA countries' production. It is difficult to support this claim because of the different classification and statistical methods, as well as differences in the production technology of the particular countries. Thus, the illustration of the influence of the production structure on its material intensiveness and energy

intensiveness, presented below, should be treated with caution, as it is the case of a result of a formal statistical comparison.

Table 1. Share of Consumer Industry and Steel and Nonferrous Metals Metallurgy in Total Output of Manufacturing Industry in 1977

<u>CEMA countries</u>	<u>%</u>	<u>Capitalist countries</u>	<u>%</u>
Poland	28.7	Netherlands ^b	31.1
Czechoslovakia ^a	31.1	Great Britain	25.9
Hungary ^a	31.7	France ^b	25.4
		Japan ^c	23.8
		Italy ^c	23.3
		West Germany ^c	22.4
		United States	22.0
		Sweden	21.9

a. Without the turnover tax

b. Without the value added tax

c. Without the indirect taxes and subsidies

Source: based on the Yearbook of Industrial Statistics, 1978 edition, Vol 1, General Industrial Statistics, United Nations.

In the five developed capitalist countries (the FRG, France, Belgium, Netherlands, Italy) analyzed here and in Poland (the analyzed year was 1965) only two subsectors, namely, food industry and metallurgy³ were characterized by high material intensiveness. We can assume that those branches have also remained the most material-intensive in the mid-1970s, illustrated by the above data.

As Table 1 proves, only in the Netherlands was the share of food industry and metallurgy in the total production of the manufacturing industry similar to that of the European CEMA countries. The data presented above do not prove that food industry and metallurgy are excessively developed in the CEMA countries, they rather show that the subsectors of industry with a higher degree of manufacturing, less material-intensive are not sufficiently developed.

An important factor, possibly the most important one, determining the high overall energy- and material-intensiveness of the national income of the CEMA countries is the unsatisfactory unit consumption of energy and raw materials. That high consumption is influenced by the economic mechanism as well as by the technical equipment and technology utilized. In Poland in the 1970s, the manufacturing apparatus has undergone an overall modernization process. One has to be aware, though, that the technical equipment and technology installed in the nation's economy had their origin in the era of plentiful and cheap energy and raw materials.

A further factor that complicates the situation of the European CEMA countries in the field of fuels and raw materials is the unfavorable location of their natural resources. The location of the deposits of fuels and raw materials throughout the area of the community [CEMA] as a whole is disproportionate. The most diversified and richest deposits are located in the Soviet

Union, resulting simply from the vastness of the territory of this country. It has its consequences for the international division of labor between the CEMA countries and for the conditions of development of the latter. The fact that the richest deposits are located in the far western territories of the USSR also has significant consequences. The location of these resources is economically inconvenient (long distances coupled with the necessity of dependence on land transportation, areas with an unsufficiently developed infrastructure) which raises the general costs of channeling these resources into the economy.

Soviet Foreign Trade In the Field of Fuels and Raw Materials

The USSR is the only developed CEMA country with a positive external balance of energy, fuels and raw materials. The value of Soviet exports of fuels and raw materials (SITC groups 2, 3 and 4) has increased in current prices from \$4,020,000,000 in 1970 to \$34,082,000,000 in 1979.⁴ Particularly, the value of exported fuels has increased: from \$1,989,000,000 to \$27,317,000,000.⁵ The volume of exported crude oil in the years 1971-1979 has increased 52.5 percent, of natural gas, 319.6 percent and of hard coal, 4.4 percent.

After 1973, the increase of world prices has resulted in the value of the Soviet fuel exports to the developed capitalist countries being higher than the value of such exports to the CEMA countries. As far as volume is concerned, the European CEMA countries are still receiving most of Soviet exports of crude oil and its refined products.⁶ Soviet coal is sent mostly to the CEMA countries. Only in the export of natural gas are the proportions different.

The export of fuels and raw materials is a very important source of earning hard currency for the USSR. Its share in USSR exports to the developed capitalist countries has increased from 53.5 percent in 1970 to 78.9 percent in 1979, and out of this the share of fuels has increased from 27.7 percent to 66.6 percent (in current prices).⁷

The data on the structure of value of Soviet exports of fuels and raw materials are contained in Table 2.

Table 2. Geographic Structure of Soviet Exports of Fuels (SITC Group 3) and Raw Materials (SITC Groups 2 and 4) (in percent)

<u>Regions</u>	<u>1970</u>		<u>1979</u>	
	<u>Fuels</u>	<u>Raw materials</u>	<u>Fuels</u>	<u>Raw materials</u>
European socialist countries	51.1	57.6	39.0	54.4
Other socialist countries	3.5	1.1	1.0	1.3
Developed capitalist countries	37.8	34.6	52.1	38.9
Less developed countries	7.6	6.7	7.9	5.4
Totals	100.0	100.0	100.0	100.0

Source: Monthly Bulletin of Statistics, May 1981, United Nations, my own computations.

The fuels and raw materials imported by the USSR originate mainly from the less developed countries. The Soviet Union's assistance extended to those countries, its investment projects there, and compensation agreements are to a considerable degree tied to export of raw materials to the USSR in the later stage of their cooperation (Guinea, Iraq, Iran, Turkey). This particularly pertains to natural gas and bauxite (for a comparison see Table 3).

Table 3. Geographic Structure of Soviet Imports of Fuels (SITC Group 3) and Raw Materials (SITC Groups 2 and 4) (in percent)

Regions	1970		1979	
	Fuels	Raw materials	Fuels	Raw materials
European socialist countries	81.6	17.9	28.0	11.2
Other socialist countries	-	3.9	-	8.6
Developed capitalist countries	2.4	20.1	5.3	43.5
Less developed countries	16.0	58.1	66.7	36.7
Totals	100.0	100.0	100.0	100.0

Source: the same as in Table 2.

The developing countries have surpassed the CEMA countries as suppliers of fuels to the USSR in the first half of the 1970s. It has not been caused by a decrease of deliveries from the CEMA countries, specifically of Polish coal. A drop in deliveries of Polish coal was recorded only in 1979. However, deliveries of crude oil (and its price) and natural gas from the Near Eastern countries and Afghanistan have increased substantially.

The positive balance of Soviet fuel trade has increased from \$1,777,000,000 to \$25,383,000,000 in the years 1970-1979. Price changes have played the decisive role, but the positive balance measured in terms of the volume of trade in all the categories of energy also grew steadily up to 1979. The positive raw-materials balance in 1970 was \$1,067,000,000, in later years it has been rising much more slowly; in 1977 it reached the highest level--\$3,562,000,000. The 1978 balance was \$3,350,000,000, and \$3,454,000,000 in 1979.

European CEMA Countries

The European CEMA countries (excluding the USSR) are not able to meet their energy requirements. Romania has substantial oil deposits but it is not self-sufficient in this respect either. In addition, small deposits are to be found in Hungary. Those in Poland are of no significance. There are large natural gas deposits in Romania, small ones in Poland and Hungary. Poland has large deposits of hard coal, being next to the USSR as an important exporter, and there are significant deposits in Czechoslovakia. Significant deposits of brown coal are located in the GDR, with much smaller ones in Poland, Czechoslovakia and Hungary. However, the conditions of coal extraction are deteriorating (in Poland and the GDR), the quality of fuel is low (Bulgaria) or is getting worse (Czechoslovakia).

According to the UN data, in 1979 only Poland had still a positive external energy balance, other European CEMA countries have a decisively negative

balance. The total negative balance of the European CEMA countries has increased from 45.4 million tons in terms of coal in 1970 to 129.3 million tons in 1979.⁸

Table 4. The Degree of Energy Self-Sufficiency of CEMA Countries Compared With Developed Capitalist Countries (Ratio of Production to the Requirements of Nations' Economies) (in percent)

	1970	1975	1977	1978	1979
Bulgaria	50.0	37.1	32.5	31.7	32.9
Czechoslovakia	80.3	70.3	67.0	66.4	65.9
GDR	77.8	71.0	69.3	68.7	68.7
Poland	113.0	111.1	107.8	107.5	106.8
Romania	102.3	96.5	91.2	85.0	83.1
Hungary	66.9	55.2	55.1	54.4	52.3
Total of 6 European CEMA countries	89.9	84.3	81.5	80.0	79.4
USSR	113.6	114.2	117.2	117.8	117.9
Developed capitalist countries	67.1	63.8	60.9	62.1	63.4
out of these EEC ^a	38.2	41.5	43.1	43.6	45.5
United States	91.5	83.0	76.3	77.0	78.3
Japan	--	8.0	7.4	8.4	7.9

a. Nine countries: Belgium, Denmark, Netherlands, Ireland, Luxembourg, the FRG, Great Britain, Italy.

Source: Yearbook of World Energy Statistics, 1979, United Nations, my own computations.

As was mentioned, the main supplier of energy sources for the CEMA countries is the Soviet Union. In terms of volume, in 1978 Soviet deliveries to the six European CEMA countries provided: 60.6 percent of their total imports of hard coal (Poland has until now exported more hard coal than the USSR but it was directed mainly to the capitalist countries), 98.7 percent of natural gas in terms of its caloric value and 47.8 percent of electric energy. Soviet deliveries in 1977 constituted 80 percent of these countries' total imports of crude oil and oil products.⁹ The European CEMA countries' share of mutual deliveries in their overall import of fuels is markedly decreasing. This is a result of not only physical accessibility of these commodities but also of specific commercial policy. A considerable part of the fuels exported by the European CEMA countries is being directed to the developed capitalist countries in order to obtain convertible currencies and to pay off their indebtedness.

The geographic structure of the European socialist countries' fuels supply sources according to value looks as follows (Table 5):

Table 5. Geographic Directions of Fuel Imports (SITC Group 3) to European Socialist Countries (Excluding USSR)* (in percent)

	<u>1970</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Mutual trade	20.8	11.1	10.6	9.5	8.3	7.2
USSR	70.3	69.3	67.4	73.3	75.8	75.0
Remaining countries	8.9	16.6	22.0	17.2	15.9	17.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

*Albania, Bulgaria, Czechoslovakia, GDR, Poland, Romania, Hungary.

Source: Monthly Bulletin of Statistics, May 1981, United Nations, my own computations.

There are some premises that indicate a future change in this structure in the direction of a lesser Soviet role in supplying energy sources to the six CEMA countries. Electric energy may be an exception. The plans for coal extraction have not been fulfilled. The 1980 output of coal, 716 million tons, was 29 million tons short of the corrected planned output for that year, and the difference when compared with the original five-year plan exceeded 80 million tons. In 1981, the amount of coal mined was 2 percent lower than in the preceding year. The evaluation of the possibilities of the USSR's coal export has to take into account the decreasing export of Polish coal to the USSR.

A slowing down of the growth rate of crude-oil extraction is beyond doubt. Its extraction in 1980 was 23 percent higher than in 1975, but in the current five-year period it will grow merely 3-7 percent. The growth of extraction in 1981 was proportionate to this index. However, some recent Western professional estimates do not confirm the earlier published pessimistic prognoses. A rise both in extracting crude oil during the entire decade of the 1980s and maintaining a high level of exports until at least 1985 are expected.¹⁰ There is no basis now, therefore, to doubt the USSR's ability to fulfill the agreed upon deliveries to the CEMA countries for the years 1981-1985, approximately 10 percent higher than in the years 1976-1980. A further rise in the later years is possible, but it depends on the evolution of the export to the West. In any case, a considerable growth of demand will have to result in a necessity of an increased import from other sources.

The plan of natural gas extraction for 1980, however, has been raised in relation to the original version of the five-year plan and it has been fully executed: 435 billion m³ of gas were extracted. The plan for 1981-1985 stipulates an insignificant slowing down of the natural gas production's rate of growth; the quantitative growth will be higher than in the preceding five-year plan period. The 1981 has begun the five-year plan successfully. As far as export of natural gas is concerned 75 percent of the total is destined to the CEMA countries. Western European countries are indicating a keen interest in joining in natural gas pipelines investments in the USSR with the purpose of ensuring high deliveries of gas in the future. The rationale of this is that the increased deliveries of natural gas would compensate for the slow-down or decline of the deliveries of crude oil. On the

Other hand, however, the implementation of such projects is not free of obstacles. Although the fears of an overdependence on the Soviet deliveries have been overcome in the Western Europe, but one can expect some difficulties from the United States.

Thanks to the completion of the Orenburg Pipeline the deliveries of natural gas to the CEMA countries have increased quite significantly in 1980, and they will remain on a high level for a number of years.

Generally speaking, the CEMA countries have several avenues to choose from in their attempt to solve the fuel and energy problems. First is to lower the energy- and material-intensiveness of economic growth. This activity is indispensable for all countries because the traditional energy- and material-intensive way of growth will encounter ever more difficulties at the present stage of development of the world economy. This is the most effective activity, especially if we consider that it does not involve any investments (just changes of system). The second direction involves the development of one's own production of fuels and raw materials in each country. The third-- the development of cooperation and division of labor in the field of energy, fuels and raw materials between the socialist countries. The fourth direction is to set up lasting ties with the developing countries, ensuring access to their resources of fuels and raw materials; it involves mainly export of investment goods on credit. Finally, the fifth direction consists of the expansion of a wider and more specialized export offer that is adapted to the varied needs of the fuel and raw-materials producers.

In the perspective of the 1980s, primarily systematic activities can bring results; they include an increase of energy-, fuel- and raw-material-use effectiveness and the already undertaken investment projects in the field of developing raw-material production. In particular CEMA countries, endeavors are being made to lower energy-intensive production. The analysis and evaluation of such efforts requires a separate study.

FOOTNOTES

1. The change of energy intensiveness of the national income was measured as a ratio of the factor of energy-consumption increase to the factor of national income or GNP increase. Computations were based on the Yearbook of World Energy Statistics, 1979, United Nations, and Monthly Bulletin of Statistics, June 1981, United Nations.
2. Bulgaria, Czechoslovakia, GDR, Poland, Romania, Hungary.
3. Based on: Anatolok M., Bocian A., Zajchowski J., Changes in Material Intensiveness Versus Macroeconomic Relations in 1960-1972, Institute of Planning, Warsaw 1975, Issue 38.
4. Monthly Bulletin of Statistics, No. 1981, United Nations.

5. Vneshnaya Torgovlia SSSR, 1972, 1979.
6. According to the Mining Annual Review 1980 estimate CEMA countries received in 1979 around two-thirds of Soviet exports of crude oil and its refined products.
7. Monthly Bulletin of Statistics, May 1981, United Nations.
8. Yearbook of World Energy Statistics, 1979, United Nations.
9. Ligai K., Fokina L., Struktura torgovli mezhdu stranami SFV, Voprosy Ekonomiki, 1979, No 12.
10. Petrostudies, Soviet Production Reform of 1980 and Its Potential; David Wilson, University of Leeds, as reported by RYNKI ZAGRANICZNE, No 156-157, 27-30.12.1980; Economist Intelligence Unit, Soviet Oil and Gas to 1990, according to a bibliographic note in THE ECONOMIST, 29 Nov-5 Dec 1980.

9644

CSO: 2600/867

DELAYS IN EXPANSION OF KOZLODUY ATOMIC POWER STATION

Sofia ZEMEDELSCO ZNAME in Bulgarian 11 Aug 82 p 1

[Article by Tsvetana Evgenieva and Tsvetan Purenski, "our correspondents at national projects": "Fifth Block on the Agenda at Kozloduy Atomic Energy Complex"; passages enclosed in slantlines printed in boldface]

[Text] /Largest project of the Eighth Five-Year Plan. Who will make up the lost time? Previous experience must be used.

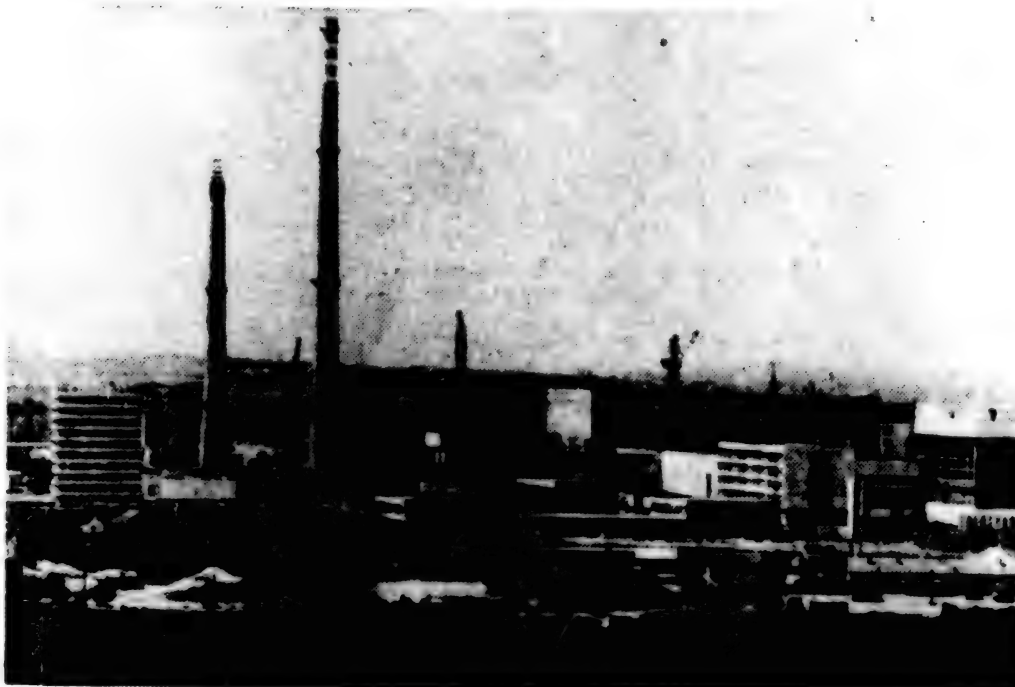
/While construction and installation men of the Kozloduy Atomic Energy Complex hastened to build and commission the fourth reactor, construction of a fifth power block began almost imperceptibly on the west side of the plant. As is already known, the first 1000-megawatt reactor outside the Soviet Union will be installed in it. It will be the sure means for the further development of the Bulgarian power supply and the economy of our country, and this is what accounts for its first-priority importance./

Considering that Decree No. 24/1981 of the Council of Ministers specifies measures for its accelerated construction and that the startup target date is set for the end of 1985, it is quite natural that we should try to find the extent of the now-existing effort and an answer to the question: What is being done to overcome the delay?

The first finding is far from comforting: as long as efforts were focused on the fourth reactor, insufficient attention was given to the building of the fifth block. Reckoned in time, the delay equals nearly a year. It is this lost time that must be made up at any price if the government's startup target date is to be met. This means that the entire construction in general lines must be completed not later than the end of 1983 in order to give full scope to the installation men, who need at least 18 months.

The comprehensive program that has been formulated indicates specific measures whereby the delay can be overcome. Of these, here are the foremost:

/--Instead of 700 men as now, the number of construction and installation men must be increased to 7000!



Kozloduy Atomic Energy Complex

/--The newly set up construction and installation facilities must begin to operate at full capacity as soon as possible.

/--The necessary mechanization facilities--earth-moving machinery, dredges and dump trucks, as well as two of the 400-ton cranes unique to our country--must be delivered without delay.

/--Regardless of the difficulties in altering some of the documentation in keeping with the requirements for seismic security of the construction project, it is imperative that plans, blueprints and project estimates be received in a much more even flow so as to adhere to the current network schedule.

/--To all this we must add the obligation of the foreign-trade central organizations which are procuring the equipment for the fifth block that the equipment must be at the central organization not later than the end of 1983./

If we take each of these requirements one by one, it will be seen that so far not one has been complied with completely. The number of construction and installation men has not been increased, and in this connection the question has been raised whether the Atomic Energy Complex is actually a Komsomol project since out of the 400 stipulated youths, so far not one has arrived in accordance with an organized procedure. Last year in the very short time it took to convince the construction men that our country has new mechanization facilities, the long-awaited dredges and dump trucks were sent to the project. But afterwards (by whose order there is absolutely no telling!) this badly needed equipment was transferred to the Belene Atomic Power Plant where still no large-scale offensive has been opened, and not only is it not being used to best purpose, but some of it is not even being used for its intended purpose. Blueprints do not arrive on time or according to schedule, and this slows down construction.

/"We are talking about special-purpose mechanization facilities, but on the fifth block construction site we don't have even the most ordinary," construction project chief Engr Dimitur Dinkov said anxiously. "At present we are working with 100-percent obsolete machinery. The present construction and installation facilities have had their day and are no good for work, but the new ones still haven't been finished. Nor are their funds enough for the construction of social amenities and housing, and this affects the retention of workers at the construction site."/

The scale of the new project is impressive. For the foundations of the reactor plant alone, tens of thousands of cubic meters of earth were excavated and in their place 120,000 cubic meters of Danube gravel were poured. The new reactor plant will be built with a special shell design, and the ventilation pipe will lead out directly from the plant. Much of the construction will be done with ready-made elements and a large amount of steel structural members. The steel construction workers of Dimitur Petrov are now welding the complex iron structures that outline the future foundations of the reactor. Construction men of Gergo Gergov's brigade from the Kazichane MSK [expansion unknown; possibly installation and construction combine] are working on the integrated auxiliary vessel. Heavy bulldozers and steam-rollers are preparing the loess-cement flooring for the erection of the framework of the machine room, which will be 150 meters in length. The experienced brigades of Hero of Socialist Labor Petraka Stoimenov, of Zlatko Stoyanov and of Petko Ivanov are working with full energy on the construction site. And nevertheless, out of the total number of major subprojects, for 10 even the foundations have still not been poured. Yet according to the comprehensive program, the nonhermetic portion of reactor block construction must be completed before the end of this very year. Will these target dates be met?

/Considering the experience of the construction and installation men, who have already built four reactors, and in view of the fact that much of the new construction will be done with ready-made structural members and that new technologies and potential reserves are being sought, confidence of meeting the startup target date is strengthened. But in order to have greater certainty, instead of the reassurance as hitherto the exertion and steady pace customary

for this construction project must be instituted, with an immediate changeover to three shifts and a seven-day work regime and a solution of all difficulties by the provision of sufficient personnel and equipment. Only then will the final startup target date for the fifth reactor, which is now on the agenda as the biggest project of the Eighth Five-Year Plan, be met without complications.

6474

CSO: 2200/136

DELAYS IN EXPANSION OF KOZLODUY POWER STATION CONTINUE

Sofia RABOTNICHESKO DELO in Bulgarian 18 Aug 82 pp 1, 4

[Article by Tsanko Raychev, RABOTNICHESKO DELO special correspondent, Kozloduy: "Moving 'by Force of Inertia' instead of Sudden Change"; passages enclosed in slantlines printed in boldface]

[Text] /Kozloduy Atomic Power Plant a First-Priority National Project. Work Pace so far not Measuring Up to High Requirements.

/The main question in the construction of the fifth and sixth blocks of the Kozloduy Atomic Power Plant is how to overcome delay. The conclusion is categorical that many of the target dates for the design, requisitioning and delivery of materials, machines and equipment are unmet. It is likewise clear that the fifth block must come on stream by the end of 1985. A special operational start-up staff has been set up. The efforts of thousands of designers, construction workers, machine builders and power engineers are being mobilized to build the plant. What are the results?/

There has been no radical change in the work at the construction project. Dump trucks move slowly along the dusty white roads in the loess construction sites. The promised water sprinkler tanks, which should work two shifts on a 7-day schedule, have still not been provided by the governing body of the ONS [okrug people's council] in Vratsa. There are two new bulldozers in the investor directorate building, but due to bad organization they have not been sent to the project. Speculation still continues as to where to put the future domestic services complex. Housing construction is lagging.

This is the reason why the decision for a general changeover to two- and three-shift work has not been implemented. During our check at 0600 and 2200 hours on 12 August at the projects /there was not a single worker and all machines were idle/. What, then, indicates constant shock work?

The only personnel hard at work were the construction men of Petko Petkov's multipurpose brigade, which is pouring the foundation slab for the reactor

room around the clock. But as the folk saying goes, "One swallow does not make a summer." There are 1200 people working on the project and they are supposed to take down 25 million leva by the end of the year. But how will a construction and installation front of 80 million leva more be opened next year?

During the past few months the staff of Energoproekt Institute in Sofia has regularly transmitted documentation for over 3 million leva each month, while about 1 million leva are taken down. Despite this, in many sectors no work is being done due to the lack of designs and project estimates. No real branch of the institute has yet been set up at the project with its own facilities for the day-to-day solution of full-scale construction problems. The Ministry of Power Supply must actively decide this question.

The "open-sesame" of the project now is the building of the reactor room or, as the case may be, the making and installation of 2690 wall panels. Despite the fact that these especially important elements were supposed to arrive in an even flow from the beginning of July on, nothing was received until the middle of August. There is no design solution for the facade panels of the reactor room. No order has been placed for all the floor and corner panels. The capabilities of the "Mir" [Peace, or World] Enterprise in Pleven to organize and implement the series industrial production of all the panels by the end of the year have not been realistically assessed. This is a crucial problem, without which no step forward can be made.

The development and use of a parallel large-area formwork technique for this sector merits thought. The construction work will thus be speeded up, and the inefficient hauling of sand and gravel from the Danube to Pleven and the sending back of panels will be decreased. The project has more than enough transportation problems without this. The hauling of gravel to Vratsa entails many difficulties. Advance requisitions for railroad cars by the month or quarter have not been placed. The Ministry of Transportation has failed to provide technologically efficient transportation or transportation for workers.

Even a general glance at the construction suffices to see that the battle is being waged at "zero elevation." Excavations are being made, foundations poured, underground mains run, and loess-cement cushions placed. It is for this reason that /an acute need is felt for a technological sequence in the provision of designs and project estimates/. All construction at the project is affected by any delay in contracted-for deliveries for the construction of the reactors. For example, the circulating pipes hinder the construction of the underground mains and the startup of the reactor is prolonged. Thus far the Lenin Metallurgical Combine in Pernik has produced only 100 tons of metal, from which the spiral-molded pipe combine in the city of Septemvri will not produce the first meters of piping until a month from now. The issue at the project now is not just any documentation, not just any raw materials, supplies and equipment, but of documentation, raw materials, supplies and equipment that are precisely specified in respect of type, quality, quantity and technical data. It is no accident that installer Boris Khristov says, "The comrades from Energoproekt must not be allowed to go on drawing all summer, while we start working once it is raining and snowing. There are no design solutions for the most important sectors. We can't begin building the piping from the middle."

Equipment that is enormous in size and quantity is beginning to arrive at the Kozloduy Atomic Power Station construction site from the Soviets. The necessary organization has not been set up and there is no readiness for continuous operation. No investor or unloading facilities have been constructed in Vratsa.

/There is a lag in the erection of the screening installation, the concrete center, and housing construction./ The capital investment for this first-priority national project must be taken down in an even flow and in maximum amount. Anyone who is responsible for unmet target dates or for nonfulfillment of any assignment must be called to a personal accounting. Political work must reach every worker, and insistence on high criteria and a sense of responsibility must be intensified in the builders of this major national project.

/The following have fallen short in their duty to the Kozloduy Atomic Power Station:

/--The Ministry of Power Supply--project investor

/--The Ministry of Construction and Architecture--chief expeditor

/--The Ministry of Transportation for unsolved problems in technologically efficient transportation and the transportation of workers

/--Energoproekt Institute--execution of project estimates

/--"Mir" Economic Enterprise in Pleven, which is manufacturing the reactor room wall panels

/--The Lenin Economic Metallurgical Combine in Pernik, which is responsible for supplying metal for the circulation piping

/We expect these departments and organizations to take speedy measures!/
/

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CSO: 2200/140

SERIOUS DELAY IN CONSTRUCTION OF KREMIKOVTSI METALLURGICAL COMBINE

Sofia VECHERNI NOVINI in Bulgarian 20 Aug 82 pp 1, 2

[Article by Simeon Danevski, VECHERNI NOVINI correspondent at construction sites of Kremikovtsi Economic Metallurgical Combine: "Construction Behind Schedule"; passages enclosed in slantlines printed in boldface]

[Text] /The construction program of Kremikovtsi Economic Metallurgical Combine is not being fulfilled. A number of machine-building enterprises are not delivering millions of leva worth of machinery and equipment. When will coke be produced by the fourth battery? It should be as of 31 December 1982, but. . ./

Why is construction at the Kremikovtsi Economic Metallurgical Combine not going well? Such a question would even seem slightly strange to many people, all the more so since it has heretofore been noted many times that the metallurgical cycle has long been closed, and consequently . . . there is nothing to construct. But at Kremikovtsi there is something to construct and this means that there is a need for both construction and installation men.

And so, what is being built in 1982 in the territory of the combine? There are several projects, but the major ones among them are the pickler-2 in the cold rolling shop, the fourth coke battery and the storage portion of mill 700/500. And to be still more precise and convincing, let us mention that this is the year that 90 million leva worth of capacities are supposed to be put into operation. Are supposed to be, but it is unlikely that this will happen, now that such a great delay of almost all projects has been chalked up. And in the months of September and October two major overhauls are going to be carried out--hot rolling mill 1700 (full reconstruction and modernization) and blast furnace No. 1--overhauls which will take the efforts and attention of hundreds of construction and installation men.

Why has this great delay come about? We sought an answer to the question from the representative of the BCP Central Committee and the Council of Ministers for the construction of the Kremikovtsi Economic Metallurgical Combine, Engr Delcho Gyurov.

"The construction of new capacities at the combine is going slowly despite the fact that the strenuous construction program for the year should be sufficient stimulus to work at a higher rate and with greater responsibility. There are many reasons, but we must acknowledge that subjective ones are uppermost: that is to say, weaknesses, primarily of an organizational character, have prevented the meeting of schedules. Now that nearly 8 months of the year have passed, it is difficult to say what portion of this delay can be made up. But efforts must be made to complete whatever can be done, so as to come as close as possible to the startup schedule."

Comrade Delcho Gyurov dwelt further on three principal projects under construction at the combine, among them the biggest /continuous strip pickler-2/ in the cold rolling shop. The installation of machinery is falling appreciably behind, even though the foundation has been finished since back in April. Four whole months have literally been lost because of the following:

/--The machines from the "Struma" Plant in Pernik arrived at the combine 3 years ago, but many of them have now been found to have serious defects. It is good that the plant management has taken timely measures and succeeded in remedying them, but delay is delay. And the six frames were not repaired until the beginning of August, while without them nothing could be started. . .

/--The equipment from the "Vaptsarov" Machine-Building Plant in Pleven is still awaited. Every target date has passed and it will be interesting how the management of this plant will explain its conduct. The plant was supposed to deliver six blocks; at Kremikovtsi there is only one, which arrived in the middle of August. Add to this the lack of complings to connect the Bulgarian motors to the French machines which are expected to arrive at the end of the month unless, of course, something unforeseen happens again.

/--Rubberizing is another important question which is not being successfully solved. The machines are being awaited from the machine-building plants in Khaskovo and Dimitrovgrad; they were supposed to arrive at the beginning of the year. The latest news from both these plants is that the commitment will be met by the end of the month (everything has been left for the end of August, it would seem!).

/--Lack of a sufficiently skilled work force, which Installations DSO [State Economic Trust] is supposed to provide. The picture is becoming crystal clear: there is no machinery at the projects, nor are there enough people to finish at least the work that can be finished. And the arrows of the graphs do not continuously point downwards. . ./

It would seem that things are better with the building of the /fourth coke battery/. There 2500 cubic meters of refractory masonry have been laid. But certain makes of brick are lacking, without which the first zone of the battery cannot be made. Warnings have repeatedly been given of this situation and measures taken, but the results are unsatisfactory. Definitely to blame is the investor of the Kremikovtsi Economic Metallurgical Combine construction project, who was supposed to provide construction materials on time, and not build the battery now in fits and starts for a few hours a day. The project

has a startup target date of 31 December 1982, which probably will not be met, and everybody knows how much the national economy needs every ton of coke. Despite the delay there is a possibility of making up some of the lost time. To do so, however, the missing makes of firebrick must be delivered as soon as possible, sufficient construction personnel must be provided, and a change-over made to two-shift work.

The situation is almost the same with the construction of the storage portion of rolling mill 700/500. Owing to insufficient care taken by the Kremikovtzi construction administration, the building of two furnaces and a straightener has fallen behind. Here, too, there is an insufficient skilled work force, but what is more interesting, the administration management apparently expects somebody else to solve this problem.

"The construction organizations in the combine's territory are weak in respect of their capacity," says Engr Delcho Gyurov. "They will hardly meet the construction that has to be performed either this year or by the end of the five-year plan. This, however, in no way justifies the organizational weaknesses that have occurred. How, for example, is the failure to requisition chemicals in good time to be explained other than as negligence? It is a good thing that the Ministry of the Chemical Industry responded with great understanding to our needs and filled our requisition without any plan. The construction equipment is already obsolete and does not meet our present needs. Now the construction is different, more specific. We are faced with embarking more seriously upon a program of reconstructing and modernizing the combine. This makes it imperative to build anew and to have high-capacity construction and installation organizations which measure up to the needs."

/In Conclusion

/--The Ministry of Machine Building and Electronics must render full cooperation for the faster arrival of machinery and equipment from the plants in Pleven, Khaskovo and Dimitrovgrad. And responsibility must be fixed for unmet target dates.

/--The Ministry of Construction and Architecture or Installations State Economic Trust, as the case may be, must provide the skilled work force to build the continuous strip pickler-2 and effect conditions for a changeover to two-shift work at all its projects.

/--The Kremikovtzi Economic Metallurgical Combine as investor in the fourth coke battery must quickly procure all the missing makes of firebrick so that the delay can be made up and the battery built by the end of the year and that at the beginning of next year it can produce the first tons of coke./

And full mobilization of the energies of all construction and installation men. For only with good organization and strict fulfillment of obligations can at least part of the delay be made up and the process of the disruption of schedules be halted.

/The construction at the Kremikovtzi Economic Metallurgical Combine, part of which is reconstruction and modernization of now-existing capacities, is an

important stage in the building of our ferrous metallurgy. This is why it must be viewed with the necessary seriousness and attention. The editors of the newspaper VECHEPNI NOVINI will keep close watch on the fulfillment of the combine's construction program and will in their publications reflect the labor activity of the construction and installation organizations, the progress and the problems that arise every day./

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CSO: 2200/141

BULGARIA

NEED FOR FURTHER IMPROVEMENT OF NATIONAL DIET OUTLINED

Sofia PLANOVO STOPANSTVO in Bulgarian No 6 82 pp 11-20

[Article by Docent Lilyana Bozukova: "Status and Solution of the Food Problem in our Country"]

[Text] All countries are faced with the vitally important problem of ensuring population food supplies. "The production of foodstuffs is the prime condition for the life of the immediate producers and for all production in general."¹ Securing the foodstuff is a mandatory prerequisite for the development of the entire national economy and for upgrading the living standards of the people. Concern for man, which is the meaning and content of activities of the communist party and the socialist state, is manifested mainly by ensuring the availability of the necessary food stock and steadily improving the food supply system. V. I. Lenin repeatedly emphasized that the struggle for bread is the struggle for socialism. In his report on the activities of the Council of People's Commissars at the Eighth All-Russian Congress of Soviets, in December 1920, he stressed that "no socialist country can exist as a state of worker and peasant power unless it is able to have the type of food stock which will ensure the feeding of the workers employed in industry and will have the possibility of directing dozens and hundreds of workers wherever necessary. The food stock is the real foundation of the economy. Without it, a socialist policy will be no more than wishful thinking."²

Ensuring the necessary food stock of the country and steadily improving food supplies is the permanent task of the party and the socialist state. During the stage of building a developed socialist society in our country, when the basic task of the country's socioeconomic development is the increasingly better satisfaction of the steadily growing material and spiritual needs of the people, new and higher requirements develop in the solution of the food problem. They were clearly formulated in the accountability report submitted by the BCP Central Committee to the 12th party congress: radically resolving within a short time the problem of the "overall and year-round supply of the population with basic food products, both fresh and processed, and increasing our exports."³

Agriculture is the main foundation of the food stock of our country. Our natural-weather conditions enable us to produce virtually all the necessary types of food products for feeding the population and some amounts for export. Food imports account for an insignificant share of the country's food stock. This

applies mainly to citrus fruits, olives, coffee, cocoa beans and others, which cannot be produced in the country because of its climate. As the population's income increases, the consumption of such products is increasing steadily, which results in increased imports. Thus, for example, in 1980 lemon imports were higher by a factor of 1.9 compared with 1970 and 3.5 compared with 1965. The import of oranges is growing at an even faster pace. In 1980 orange imports were higher by a factor of 2.4 compared with 1970 and 3.8 compared with 1965.⁴ The amounts of imported bananas, coffee, cocoa and dates are increasing rapidly as well.

The socialist reorganization of agriculture and the remarkable results achieved in agricultural production are the basis on which the food stock of our country is developing at a fast and stable pace (Table 1).

Table 1

Dynamics of the Production of Basic Food Products
(1939 = 100)

1) Культура	1952 г.	1957 г.	1960 г.	1965 г.	1970 г.	1975 г.	1980 г.
2) Пшеница	101.9	119.6	118.8	145.8	151.3	149.6	192.0
3) Ориз арпа	144.1	185.9	104.8	108.4	214.3	219.2	218.2
4) Слънчоглед	107.5	122.3	201.0	208.3	238.8	249.2	222.2
5) Захарно цвекло	162.6	611.7	703.8	593.8	731.3	750.1	603.4
6) Домати	490.0	835.4	1445.3	1767.0	1633.4	1364.8	1911.1
7) Пипер	123.1	179.8	189.8	189.5	235.3	294.5	252.7
8) Картофи	197.2	230.5	351.9	309.4	274.9	233.9	221.4
9) Ябълки	275.0	107.2	344.2	394.1	478.1	433.6	519.1
10) Грозде	59.8	86.9	89.4	202.4	157.8	134.4	144.4
11) Мляко	92.4	132.2	161.4	201.1	236.5	261.3	321.4
12) Месо	95.1	129.4	147.1	222.1	227.8	314.6	373.9
13) Яйца	100.9	117.1	164.2	194.6	217.4	248.8	327.2

Key:

- | | |
|----------------|-------------|
| 1. Crop | 8. Potatoes |
| 2. Wheat | 9. Apples |
| 3. Rice | 10. Grapes |
| 4. Sunflower | 11. Milk |
| 5. Sugar beets | 12. Meat |
| 6. Tomatoes | 13. Eggs |
| 7. Peppers | |

These data show some basic trends, as follows:

1. The production of basic foodstuffs is developing at a stable rate.
2. The production of foodstuffs of animal origin--milk, meat, eggs--is developing at a faster rate.
3. The production of tomatoes and apples is developing at a considerably faster rate compared with the production of the other types of produce.

These trends in the production of food products in our country may be considered positive. They ensure the necessary food stock for the population and steady increases in food exports and create conditions for positive structural changes in food supplies consistent with the requirements of proper nutrition and fuller utilization of the climatic conditions under which agricultural production is developing.

The high growth rates in the absolute volume of the output of food products in our country are paralleled by a high level of output of per capita basic food products.

A comparative analysis of the level reached in our country and in other countries in the production of staple produce on a per capita basis indicates that our country is in a leading position among countries with highly developed agriculture. Our country is the sixth highest in the world in per capita wheat production, outstripping many countries with a developed wheat production such as Czechoslovakia, France, Argentina, Romania, and others. The fast increase in wheat production in our country is due exclusively to the application of scientific and technical progress and of intensive factors without expanding the areas in wheat and, in some years, even reducing them. Our country is in a leading position in the per capita production of vegetables. In 1978 per capita production of tomatoes in Europe, which is the highest producer, was 28 kg, compared with 99 kg reached by our country. Our country is in second place in the world in per capita production of sunflower, sixth in the production of grapes, fourth in the production of peaches, etc.

The high rates of absolute and relative increase in the food stock in our country are the basis for the relatively high level of per capita food consumption and the implementation of positive structural changes in the population's nutrition.

As we know, population nutrition has a quantitative and a qualitative aspect.

The daily per capita calorie consumption is the basic indicator characterizing the quantitative aspect of nutrition. Studies of this indicator indicate that our country is among the leading in the world with a per capita consumption of more than 3,500 calories daily. Consequently, the quantitative aspect of nutrition in our country presents no problem. Furthermore, bearing in mind the major changes which are taking place in the nature of labor--replacing manual with mechanized labor, and reducing the share of physical while increasing that of mental work--a trend is developing toward lowering the consumption of high-calorie foods. Currently, the emphasis in our country is shifting to its qualitative aspect.

The qualitative aspect of the population's nutrition is manifested in reaching the type of consumption of food products which ensures an optimal ratio among the individual food components (proteins, fats, carbohydrates, vitamins and minerals), consistent with the requirements of nutritional science. The qualitative aspect of nutrition is related to higher outlays of social labor in order to ensure a greater amount of food products within a specific structure, as well as a higher population income for purchasing such products.

From the qualitative viewpoint, the nutritional level is made apparent to a certain extent through the consumption indicators of the individual products on a per capita basis and their comparison with scientific nutrition norms. Table 2 shows the per capita consumption of basic food products in our country.

Table 2

Per Capita Consumption of Basic Food Products

1) Видове храни	2) Потребени храни				3) Необходими храни според научната норма	4) % на задоволеност през 1980 г. спрямо научната норма
	1965 г.	1970 г.	1975 г.	1980 г.		
5) Брашно, без царевичното, кг	189,6	170,6	155,6	153,3	135	113,60
6) Ориз, кг	3,7	3,8	4,4	4,2	4,5	93,33
7) Зеленчуци, кг	88,8	88,9	90,1	93,8	180	52,90
8) Плодове, кг	131,4	148,2	118,6	105,8	200	84,57
9) Картофи, кг	28,9	25,9	23,1	29,6	35	105,80
10) Растителни масла, кг	11,00	12,5	14,1	14,6	13,8	106,25
11) Захар и захарни изделия, кг	22,3	32,9	32,5	34,7	32	78,13
12) Месо (без сланина), кг	39,6	41,4	58,8	61,2	80	57,5
13) Риба, кг	3,4	5,5	6,2	6,9	12	75,38
14) Мляко без преработено в масло в превод към 3,5 % масленост, л	134,9	152,1	174,5	196	260	—
15) Млечно масло, кг	1,9	1,7	2,1	2,3	—	76,60
16) Яйца, бр.	100	122	146	204	265	—

Key:

- | | |
|---|--|
| 1. Type of food | 9. Potatoes, kg |
| 2. Consumed food | 10. Vegetal oils, kg |
| 3. Scientifically required | 11. Sugar and confectionary goods, kg |
| 4. Percentage of satisfaction compared with the scientific norm in 1980 | 12. Meat (excluding lard), kg |
| 5. Wheat, excluding corn, kg | 13. Fish, kg |
| 6. Rice, kg | 14. Milk without butter, in terms of 3.5 percent fat content, liters |
| 7. Vegetables, kg | 15. Butter, kg |
| 8. Fruits, kg | 16. Eggs, pieces |

The data on Table 2 show a trend of steady improvement in the quantitative and qualitative aspects of our population's nutrition. Per capita consumption of basic foodstuffs from crop growing in our country is relatively high. Thus, for example, it exceeds the scientific norm in the case of flour, sugar and vegetal oils, despite a durable declining trend. We consume the highest per capita amount of bread among the population of the CEMA-member countries. However, potato consumption is low. In the future, along with a continuation of the declining per capita bread consumption, we must continue the trend of increasing the consumption of potatoes with a view to meeting the scientific norms.

Taking into consideration the consumption habits regarding sugar and confectionary goods in the country and the fact that sugar is used also in the production of preserves, jams, alcoholic beverages, and others, it can be considered that this consumption level is adequate. This determines its future consumption trend. The same applies to the use of vegetal oils.

Despite a rising trend, the consumption level of vegetables and fruits has been unsatisfactory during the period under consideration. The consumption of vegetables and fruits must be sharply increased in the future. This calls for both higher production and increased variety, both fresh and processed, with a view to reducing the seasonal nature in the consumption of some fruits and vegetables.

Per capita consumption of basic animal husbandry products is increasing rapidly. In 1980, compared with 1965, it had increased by a factor of 1.58 for meat, 1.45 for milk and 2 for eggs. However, the consumption of animal husbandry products remains low. In 1980, per capita consumption was about 20 percent below the scientific norm for meat, about 24 percent for milk and about 23 percent for eggs.

From the qualitative viewpoint the level of population nutrition in our country between 1965 and 1980 is revealed to a certain extent also by the data on the consumption structure of food products classified by basic groups (Table 3). Although the data are more in the nature of guidelines (the computations were based on current prices) they enable us to determine some characteristic trends in the dynamics of the consumption structure of food products.

Table 3

Structure of Food Produce Consumption by Basic Group

а) Хранителни продукти по групи	1965 г.	1970 г.	1975 г.	1977 г.	1978 г.	1979 г.	1980 г.
1. Продукти с преобладаващо съдържание на белтъчини	35,59	42,69	45,40	44,82	44,73	45,85	46,45
2. Продукти с преобладаващо съдържание на мазнини	5,83	5,62	5,63	5,49	5,32	5,37	5,31
3. Продукти с преобладаващо съдържание на въглехидрати	38,41	29,32	26,37	26,06	25,75	25,05	24,89
4. Плодове, плодови произведения и консерви	10,86	10,83	10,43	10,60	10,89	10,26	10,21
5. Зеленчуци, зеленчукови произведения и консерви	6,73	7,14	7,07	7,46	7,26	7,55	7,55
6. Други хранителни продукти	2,58	4,40	5,05	5,57	6,07	5,92	5,58

Key:

- | | |
|--|---|
| 1. Food products by group | 4. Fruits, fruit products and canned fruit |
| 1. With predominant protein content | 5. Vegetables, vegetable products and canned vegetables |
| 2. With predominant fat content | 6. Other food products |
| 3. With predominant carbohydrate content | |

The main trend during this period is a clear increase in the percentage of food products with a predominant content of proteins and a reduction in the percentage of carbohydrates. Per capita consumption of proteins in our country averages about 100 grams daily, i.e., as in countries with a high nutritional standard. This, however, applies to the quantity of protein consumed. As to the protein structure, our country uses a higher percentage of protein of vegetal origin, which is not consistent with efficient nutritional norms.

During the period under consideration the consumption of products with a predominant fat content remains stable. Within the structure of this group, however, positive trends became apparent. The share of vegetal oils, the consumption of which was above the rational norm, was reduced while the share of milk fats increased.

The increased share of vegetables was a positive trend in the food consumption structure between 1965 and 1980. This trend was weak (the share of vegetables increased by about 1 percent). a trend of declining share of fruits, fruit products and canned fruits declined during the period under consideration.

The study of the dynamics of the food stock and the availability of food products for the population confirmed the successes achieved by our country in resolving the food problem. At the same time, concern for the people, as the main concern of the party and the socialist state, does not end with the solution of the food problem in its quantitative aspect. During the stage of building a developed socialist society the emphasis shifts to its qualitative aspect. The task now is to resolve the problem of the proper nutrition of the population, i.e., to base it on scientific norms. This exceptionally important and difficult task was concretized for the period between 1981 and 1985 and through 1990 in the decisions of the 12th BCP Congress and directed to the National Agroindustrial Union. The report submitted by the BCP Central Committee to the 12th congress stipulates that the plan for the NAPS [National Agroindustrial Union] must perform the functions of a food program.⁵

The task related to the elaboration and implementation of the NAPS Food Program during the Eighth Five-Year Plan and through 1990 is to ensure the systematic solution of the problem of the qualitative aspect of our people's nutrition and to increase agricultural exports.

Improvements in the population's nutrition involve mainly changes in the structure of the proteins used in terms of their origin, in order to observe scientific norms. We know that animal proteins are far more valuable compared with vegetal, and that their ingestion coefficient is far higher. However, changes in the structure of consumed proteins in favor of proteins of animal origin involve a number of difficult problems. Scientific studies indicate that the transformation of vegetal into animal proteins is based on a lower coefficient. This means that increasing the consumption of animal proteins by the population requires substantially higher quantities of agricultural output to feed the population and, consequently, a higher share of agricultural production resources. This is necessitated by the fact that in order to increase the production of animal proteins the production of vegetal proteins

In order to ensure the solution of this problem, the theses of the 12th BCP Congress stipulate that "feed production must meet the needs of animal husbandry."⁶

The development of agriculture during the Eighth Five-Year Plan (1981-1985) stipulates a faster development of animal husbandry output. At the same time, the production of feed grain must be developed at a considerably higher rate. Thus, for example, the five-year plan calls for increasing it by 36 percent while the production of vegetal proteins must be increased by 39 percent. That is why, in our view, the formulation of the counterplans of the APK [Agro-industrial Complexes] and the other agricultural organizations must include all reserves and their full utilization, on the basis of engineering plans. Reserves related to the production of more animal protein must be sought in two directions.

First, the production of feed units per unit area must be increased. This can be achieved by improving the planting of feed crops. Based on the specific natural-climatic conditions of the individual agricultural organizations and the possibility of interchanging feeds, an optimal feed production plan must be elaborated. It must be such as to ensure the full utilization of natural conditions for the production of a maximal quantity of fodder units and digestible proteins per unit area with minimal outlays of public labor per unit of output.

Second, the coefficient of conversion of vegetal into animal proteins must be raised. To this end possibilities must be sought of improving the structure of animal husbandry. The question is reduced to increasing the breeding of animals in which the coefficient of transformation of vegetal into animal protein is higher. Thus, for example, about 10.1 kg of vegetal proteins are needed for the production of 1 kg of veal protein; respectively, 7.9 kg per kg of pork, 4.5 kg per kg of poultry meat and 3.2 kg for cow milk. Furthermore, the breed and the nutrition of the livestock, etc., also influence the transformation coefficient.

The private plots are a reserve for increasing animal husbandry and, therefore, resolving the problem of improving the population's nutrition at the present stage of agricultural development. The 12th BCP Congress pointed out that the public farm is the main source for supplying the population with food-stuffs. On this basis substantial tasks were formulated related to the further strengthening and development of the APK and the other agricultural organizations. However, the congress also stipulated that private and auxiliary farms should be considered extensions of the public farms. They must be developed and used as a reserve in increasing agricultural production.

The study of the development and utilization of the private plots in increasing agricultural production in our country during the Eighth Five-Year Plan indicates that it has not reached the limit of its possibilities. This is confirmed by the following results: compared with 1976 the livestock sold for slaughter in live weight in 1980 was 19 percent higher; in terms of the cattle alone the increase was 84 percent. During the same period milk production in the private plots increased by 21 percent, including cow milk, which increased

by 59 percent. The greatest increase during that period in the private plots was in eggs. Compared with 1976, egg production in 1980 was higher by a factor of 2.3. The private plots achieved significant successes in increasing the production of some crops as well. Thus, for example, compared with 1976, in 1980 tomato production was 86 percent higher; peppers, by 50 percent; and grapes, by 10 percent. Within the same period strawberry production more than tripled while that of melon crops increased by one-half.

The food problem at the present stage is also related to the problem of the year-round supply of the population with basic foodstuffs. Its solution calls for further increases in the share of processed agricultural products. Practical experience proves that the overall economic upsurge, along with the enhancement of the material and cultural standards of the people and their purchasing power, increases requirements concerning substantial changes in the structure of the food stock in terms of the type and variety of food products. In accordance with such requirements, a durable trend is becoming apparent of increasing the share of agricultural commodities which are subject to basic or partial industrial processing before delivery to the consumer. Thus, for example, in 1980 about 34 percent of the vegetables consumed by the population and 44 percent of the fruits were processed. The share of meat products and canned goods increased rapidly. In 1980 they accounted for more than 30 percent of the overall volume of meat, meat products and canned meat goods. The share of dairy goods increased even faster. In 1980 processed dairy products accounted for more than 62 percent of the overall volume of consumed milk and dairy goods.

The trend of increased share of processed agricultural commodities is paralleled by the rapid development of the food industry. During the Eighth Five-Year Plan its output will be developing at a faster rate compared with agricultural output.

The adopted system of self-satisfaction of conurbation systems plays a certain role in resolving the problem of the year-round supply of the population with basic foodstuffs. As we know, this system was introduced in our country in 1976 and has yielded positive results. The adequate supplying of the population with agricultural commodities which are difficult to transport or spoil rapidly, such as milk, meat, fish, fruits and vegetables, has been achieved above all through the implementation of the program for the self-satisfaction of conurbation systems. Such self-satisfaction results in significant savings in transportation costs. The implementation of the system of satisfying the conurbation systems with specific food products is paralleled by improvements in the territorial planning of agricultural production and, particularly, the elaboration of a unified plan for the development of agricultural production within the conurbation system, which is a territorial unit. This offers the possibility of harmoniously combining the development of the public with the private farms and the full utilization of all resources available to the territorial unit--manpower, equipment, arable land, etc--in increasing agricultural output.

The unified plan for the development of agriculture creates conditions for organizing a planned basis for all the measures available to the public farm

in assisting the development of the private plots, such as supplying the necessary fodder for the livestock raised in the private plots, providing seeds and planting materials, supplying equipment for mechanized operations, delivery of chemical fertilizers and herbicides, veterinary services, etc. At the same time, the economic organization in the conurbation system fulfills a unified plan for purchasing agricultural commodities, which includes the output of the private plots.

The study of the level reached in the per capita consumption of basic food products by okrug and conurbation systems indicates that certain disparities remain. Thus, for example, accountability data for 1980 show per capital disparities among the individual okrugs ranging between 32 kg and 67 kg for meat and 130 and 216 liters for milk. Even greater disparities exist in the consumption of fruits and vegetables. Fruit consumption is the lowest in Pernik Okrug--59 kg per capita--and highest in Varna Okrug--123 kg. The highest per capita consumption of vegetables is in Pazardzhik Okrug--109 kg--and lowest in Kurdzhali Okrug--47 kg.

The plan for the development of agriculture during the Eighth Five-Year Plan calls for a considerable reduction in existing disparities among okrugs and conurbation systems in terms of the per capital consumption of basic food products. This is guaranteed by the counterplans for agriculture of the individual okrugs and conurbation systems. They ensure the type of agricultural production development in the territorial units which will create conditions for reaching the norms stipulated by the NAPS for the consumption of basic products on a per capita basis. This applies mainly to per capital consumption of milk, meat, fish, fruits and vegetables.

The trade system plays a major role in resolving the problems of the overall and year-round supply of the population with basic food products. Its network must be improved and new means for direct supplies to the population of food products and a reduction of intermediary units must be sought.

The successful solution of the food problem in our country depends on the overall implementation of the NAPS plan for the Eighth Five-Year Plan, which will ensure the implementation of the tasks set by the 12th party congress on enhancing the living standards of the people.

FOOTNOTES

1. K. Marx, "Das Kapital," BCP publication, 1953, p 685.
2. V. I. Lenin, "Soch." [Works], Vol 31, p 523.
3. T. Zhivkov, "Accountability Report of the Central Committee of the Bulgarian Communist Party to the 12th Congress and the Forthcoming Party Tasks," Partizdat, Sofia, 1981, p 55.
4. All computations in this article and the tables are based on statistical yearbooks of the Bulgarian People's Republic for the respective years.
5. T. Zhivkov, op cit., p 54.
6. "Tezisi na Dvanadesetiya Kongres na Bulgarskata Komunisticheska Partiya" [Theses of the 12th Congress of the Bulgarian Communist Party], Partizdat, Sofia, 1981, p 44.

WAYS TO ATTRACT YOUNG PEOPLE TO FARMING

Sofia KOOPERATIVNO SELO in Bulgarian 11 Aug 82 pp 1, 2

[Article by Dimitur Kolchev: "The Constructive Energy of Young People--The Striving for Greater Perfection is Insuperable"; passages enclosed in slant-lines printed in boldface]

[Text] Two or three years ago on one of the special pages in the newspaper RABOTNICHESKO DELO [Workers' Cause]--"Open Party Meeting," Sara Smedarchina, Hero of Socialist Labor from the city of Bansko, declared that unless the exodus of the young work force from agriculture stops, in some 10 years agriculture will find itself in a serious situation. . .

Considering that more than half of the working people in agriculture today are women from 40 to 65 years of age, it can be seen that the wise woman of Bansko is absolutely right.

/Public concern about retaining and attracting young people to agriculture is constantly growing. This concern was also manifested in specific resolutions of the 10th Party Congress. At the end of each year the Komsomol prepares special programs and instructions for the youths who will take jobs in agriculture, for the brigades that will help them and for cultural and educational measures in the countryside. . ./

The results, however, are still not encouraging. The exodus of young people from agriculture to the city is growing more than is the inflow into agricultural occupations. And in most places the newcomers stay on the job for a short while. The country has thousands of young people, educated at agricultural schools, who are working in other areas.

There have in the past been difficult years, filled with hardships, conflicts, failures, adversities. But they did not turn away from the land the eyes of the people devoted to it. Many of these people, however, in their parental love for their children tried to save them from their workaday world and make their lives sweeter. . . These working people could not pass on truer advice to their children and grandchildren than "Study and acquire knowledge and come back to the land! For the more you know and can do in agricultural technology, and in general, the more knowledgeable you are, the more you will get out of the land and the better the life you will make for yourself. . ."

How Young People See Things

I have chatted repeatedly with students from agricultural tekhnikums, as well as with young graduates who went to work in their specialty and soon thereafter left the farms or grain fields. Their justifications for this are that they did not find the working and living conditions there that they had expected.

These justifications are well-founded. Today the young livestock specialist, for example, should not be engaged from dawn to dusk in the barns. The young person does not always agree that the high compensation he receives as a dairyman, agronomist, zootechnician or machine operator is the best thing in his life if he does not receive everything of beauty that he needs and would like to have conditions for leisure and acquiring more culture. Young people in the country are essentially no different from city youths. With good reason they are not satisfied with a routine where the cycle is workplace--dinner table--relaxation in front of the television or in bed--and workplace again. Of course, there is another version of this routine: workplace--tavern or card games--relaxation at home--and workplace again.

There are many young people in the country who are reconciled to or satisfied with this monotonous prosperity. They enrich it with a well-furnished new house, with their own car in the yard and money saved in the bank. But there are others (there are even more of them) who settle neither for the primitive labor on the farms nor for the poor working conditions of the machine operator (most of the machine operators' camps don't even have baths), nor for the lack of sufficient diversions and a reasonable cultural life. They oppose the conservative positions in many local leaders' view of life, which inevitably leads to mixups in the young people's work and existence, as well as to conflicts which drive them away.

On the other hand, this latter category of young people who see things more clearly and truly are not sufficiently mature to perceive the truth that they err in expecting somebody else to make everything the way it should be to accord with their wishes and with the most up-to-date necessities for working and living in the country, and then invite them there. These young specialists must understand that it is they, who by going into agriculture--and, what is more, on a mass scale--will most successfully be able to improve country life--in accordance with their desires.

Who must make these young people understand this? To begin with, family and school. I interviewed both students and their parents, and only here and there did I find a sincere longing for the land, a love for everything it gives its industrious husbandmen. But I found, besides, that in the agricultural schools their students, to a great extent, gain the illusory self-assurance that in their future work experience they are without fail bound to start out as supervisors. They do not know that starting out directly as performing personnel in production is the best way to learn the ABC's of it and that they will then become excellent supervisors.

As for whether there are cases where young specialists' sincere desire is broken against the conservatism or carelessness of supervisors and the work

environment where they were hired, yes, there are. At Ikhtiman Agroindustrial Complex, for example, young animal-husbandry brigades, set up with difficulty, have twice been scattered in recent years.

Man Does Not Live by Bread Alone

Nevertheless, the most important thing that drives young people away from the country is not this reason and not so much the hardships. The most important thing, as I have already mentioned, is the monotonous pace of life there, the lack of spiritual coloring to give the young person salutary satisfaction and to elevate his culture. This will make his material prosperity worthwhile and will also help his children develop into all-round and harmoniously delineated socialist personalities. But for this Marxist-Leninist behest to become a reality, an important necessity is that people come in contact with artistic values.

There are young rural workers who have not grasped this truth and bear the consequences of their philistinism. Others, who have looked the truth in the eyes, either shun the country or, if they come to work there, in many cases struggle like apostles for a more pronounced spiritual development and enrichment of their fellow villagers.

It is a good thing that there are these apostles. Wherever they work and live, things are different. I will not tell at length about N. D. K. [expansion unknown] Dimitur Zlatarski in the city of Dulgopol (Varna Okrug), about Georgi Ananiev, supporter of the spacious children's art school in the village of Trustenik (Pleven Okrug), or about Hero of Socialist Labor Ald'o Aldev, supervisor of the machine-operators' brigade in the city of Srednogorie. These people, without sounding their own horn or constantly importuning for state support, selflessly and modestly accomplish everything they can. Ald'o Aldev, for example, when he sends one of his prize-winning boys on an excursion abroad, instructs him to become acquainted with as many works of art as he can. And later, on his return, he prompts him to tell his comrades what he has seen and heard. . . Ald'o maintains the self-assurance of his younger colleagues by teaching them to come to and leave the workplace dressed as if they were going to the most formal place. . . In the brigade camp there is an extensive library, a well-furnished club and park. The brigade is on friendly terms with prominent cultural figures, and attends theater and concert performances as a group. . . All this the machine operators turn into a lasting thrill that gives wings to their labor. That is why they are a model for hundreds of machine-operator brigades all over the country.

Let me tell a little bit about someone who performed miracles for his fellow villagers. He is an agronomist. He has no claims to being a cultural figure, but the 25 years that Yordan Chukhovski has spent in the village of Gostilitza (Gabrovo Okrug) have been an ascending sequence of creative building for the people. In short, let me say that the amateur performers that Chukhovski has guided as producer, script-writer, composer, orchestra conductor and joint coach have been outstanding as model national champions with three gold medals in a row at three republic festivals.

In the basement of the reading room with the help of a few enthusiastic young people and with the materials at hand, Yordan Chukhovski built a photography laboratory with 15 workplaces that there is no other like in the country. For the purpose he sacrificed much of his time off and many of his days of leave, even his own money. Why did he do it? In order to turn the attention of his young fellow villagers away from the tavern and coffeehouse, away from seeking diversions in the city, and to arouse their enthusiasm for one of the cheapest arts--photography. And he succeeded! Fifty young people are now members of the photography and cinematography clubs at the Gostilitsa reading room; they have made several movie shorts and have participated in various photography exhibitions.

Art Is a Material Force

It does not suffice to say that the Gostilitsa agronomist sees in amateur art activities a means for the all-round molding of the human being. He tries in every way to instill this into the consciousness and being of hundreds of people around him. And he long ago succeeded, even oversucceeded, for half of the people who live in Gostilitsa are participants in various components of amateur art activities. Their local agronomist, who has repeatedly led local agriculture to first place in production, has made them not only art consumers, but also art creators. Thus he implemented in advance, as they say, one of the texts of the 12th Party Congress Theses, namely, "to make fullest use of the creative potential of the people by discovering new opportunities for their maximum involvement in the creation of spiritual values and material goods."

In the village of Gostilitsa those taking part in amateur art activities are front-rankers in agricultural campaigns; they are the first to respond when labor auxiliary brigades are raised or some useful public project has to be built.

Yordan Chukhovski formulates his great truth very simply and comprehensibly, which incidentally is a universal truth rather than his, but he lives creatively and actively by it. "The emotions from coming in contact with art," he says, "the elevation of the spirit which it brings about in man, are a material force."

The remarkable industriousness and labor successes of the Gostilitsa residents in recent years prove this truth, as incidentally does also the fact that it is a rare exception for Gostilitsa residents to move to Gabrovo, Veliko Turnovo, Dryanovo or someplace farther away. Chukhovski himself has repeatedly been offered higher-paid and easy work, as well as nice housing in the city. Repeatedly his city colleagues have said to him, "Bravo! You are holding out stoically!"--without understanding that Gostilitsa is a rich spiritual world and a widely creative field for its chief agronomist.

A Bee Does Not Shun Honey

What, therefore, is needed? What is needed in our villages is an atmosphere that is much friendlier, much more cultivated, and that holds much more of

interest than many local leaders imagine. The latter must not think that matters will be set right with harvest campaign measures, with meetings and instructions on the question, or with the assignment of missions. There are many of these supervisors and specialists who live in the city but work in nearby villages. As soon as their working day is over, they run for the train or bus. And for day after day they talk at cross-purposes with the ranks of working people on farms and in the fields. In Sofia and Pernik okrugs, for example, where I am better acquainted with affairs, more than half of the agroindustrial complex chairmen, agronomists, zootechnicians, physicians and teachers do not reside where they work. After work they go home to the cities and are little worried about what the people they have left behind them do, and about whether or not these people are going to be spiritually more uplifted. . . . But it will be different if in the evenings and on holidays these more educated and more intelligent people take the lead in the cultural and entertainment activities of the people whom they supervise at work, as do supervisors like Ald'o Aldev, Yordan Chukhovski, Georgi Ananiev et al.

If we take a look at the annual reading-room budgets in many of our villages, we will see how inadequate they are, not to mention the other financial limitations hampering the furnishing of reading rooms. But every reading room should offer people an atmosphere that is better than that in any of the houses in the village. And everybody who otherwise would hunt for the tavern or coffeehouse should be keen to dash, if not to the reading room, to the village club. But this all-village club, such as every village with more than a thousand inhabitants used to have long ago, should not be a sparsely furnished little parlor or a room such as the "well-equipped" youth clubs in many villages are today. It should, rather, be a club that has different rooms--bowling alleys, bagatelle, billiards, ping-pong tables and all sorts of playrooms, a sweet shop and discotheque. . . . Few young people then will be very likely to think that it is boring in the country and that they should turn their back on the land and go to the city.

Now, it is true that such an all-village club will be quite expensive, as will the other things that must be done for a cultural working and living atmosphere in the country. But this will be decisively cheaper and economically and socially more justified and purposeful than the cost of the losses and difficulties due to the lack of a young labor force in agriculture.

The problem is beset with many questions. What is important is to seek and find the right answers. In this quest we should not forget the wisdom of folk proverbs like this one: "A bee does not shun honey!"

APOLOGIES GIVEN FOR SET OF MEASURES NOT LIVING UP TO PLANS

Prague SVET HOSPODARSTVI in Czech: 10 Aug 82 pp 1, 2

[Article by Eng Vaclav Filip, secretariat of the Government Committee for Problems of Planned Management of the National Economy: "Management Must Improve at all Levels"]

[Text] The "Set of Measures for Improving the Planned Management System of the National Economy after 1980" affected the economy during the first year of the Seventh Five-Year Plan in somewhat changed conditions because the operations plans for 1981 and 1982 had been drafted before the Seventh Five-Year Plan was approved.

The Set of Measures was implemented in 1981 in accordance with the general economic conditions and specific measures adopted in individual sectors and branches. At the same time, the prerequisites began to be gradually created for the application of intrasectorial and intraenterprise management and the related khozraschet methods of management.

The increased economic pressure exerted by the Set of Measures positively affected, within the given possibilities, solution of economic problems and significantly contributed to the results achieved in 1981, particularly in industrial production.

In evaluating the effect and impact of the planned management system it is rather difficult to distinguish the effect of material problems and the human factor from the effect of the management system itself. In addition to this difficulty, the process was aggravated in 1981 by the fact that the impact of the Set of Measures could be observed only in those sectors not directly linked to the five-year plan. Moreover, the year 1981 must be judged from the standpoint of aspects of sectorial differentiation. Let us take the construction sector for example: although the Set of Measures was detailed for it, it could not be fully effective since the basic prerequisites were not created. Likewise, it could not be fully effective in the service sector either because preparations were made only during the year for the adoption of measures necessary for its application. A similar situation exists in agriculture: the implementation of the Set of Measures cannot be completely evaluated because a well-rounded system of management of this sector, which was approved during the year, became effective on

One of the fundamental purposes of the Set of Measures is to stimulate the enterprise interest in adopting more demanding tasks in the operations plans. The basic systems prerequisite for counterplanning as the form of worker participation in the drafting of the annual plan was created by the fact that the economic guideline for preparing the 1981 and 1982 draft plans established links between the basic indicators and tools of financial incentives.

Nevertheless, the draft plans for 1981 and 1982 did not reveal a particular interest of the enterprise economic sphere in adopting more progressive tasks contrary to the guidelines. Only a small number of VJH [economic production units] proposed higher targets for production of resources while adhering to the specified inputs (raw materials, labor force, import limits). Although some VJH proposed higher targets for adjusted value added, profit, return on production assets, they wanted to attain them by exceeding the limits on noninvestment imports or labor force. The reason for small participation of organizations in counterplanning was, among other things, the apprehension that, since the five-year plan was not yet approved, the counterplanning might be automatically projected into the tasks of subsequent years of the five-year plan.

The draft of the 1982 plan was substantially affected by the material intervention in the form of a directive concerning its finalization and particularly by the change in the fuel-energy and raw-materials balance. This directive affected the economic conditions and rules (norms of financial incentives and other limits) to such an extent that it was even difficult for the sectorial ministries and VJH to link them to counterplanning. This was reflected in the fact that, contrary to the guideline, the tasks of the state plan for 1982 had to be revised.

The overall economic results of 1981 were generally positive, although no fundamental change took place in the development of efficiency of the national economy; a number of targets were not met and some unfavorable tendencies persisted. Low dynamism of the national income, decline in the social productivity of labor (in terms of the national income per worker) and the higher rate of manufacturing consumption in comparison with the social product were primarily affected by the agricultural and building sectors and by some price effects related to foreign trade.

The dynamism of economic development and plan fulfillment in 1981 reflect both positive and negative tendencies. A general conclusion can be drawn that a more positive development took place in regard to those qualitative indicators, characterizing efficiency of management, which were affected by the implementation of the Set of Measures. From this point of view, the implementation of the Set of Measures in 1981 appears to be the first step on the road to the intensification of the reproduction process. This tendency manifested itself most conspicuously in the reduction of production-material costs. The reduction of material cost amounted to 1.1 percent in 1981 and thus exceeded the average annual reduction of only 0.5 percent during the 1976-1980 period. Successful was the fulfillment of adjusted value added (100.9 percent) and attainment of the rate of 105.1 percent as compared with the low rate of output (101.2 percent) in 1980. Positive also is the development of return on production assets, particularly in industry, which

Technical development in 1981 could not yet become the basis of the plan and prerequisite for increased efficiency of the national economy. The state targets of technical development were not met in 1981. The new approach to efficiency was partly reflected in regard to enterprise tasks which were reviewed and frequently revised in accordance with their anticipated effect. The biggest problems in the area of technical development, however, persist in the employment of newest equipment and other forms of innovations (improvement suggestions, patents and so on) in production. Among the principal causes, on whose elimination attention must be focused in the future, is the small wage and moral preference of workers in technical development (technologists, designers and so on); there are no reserves in the manufacturers' and subcontractors' capacities necessary for the implementation of innovations; surviving concepts of volume indicators of production; lack of funds for import of accessories and so on. Innovation proposals are lacking also in the area of foreign trade which still offers products of low technical standard.

The introduction of the Comprehensive System of Quality Control (KSRJ) is not satisfactory. It is being organized rather unevenly not only within individual sectors but also between the branches. Some enterprises, VHJ and sectors anticipate that KSRJ will be introduced in practice only in 1983. Substantial progress in introduction of KSRJ has been made in FMVS [Federal Ministry of General Engineering] which paid more attention to the problems involved.

In the area of external relations, the system of indicators, economic parameters and incentive funds contributed to the increase in shipments for foreign trade. Nevertheless, there exist in this area, particularly in regard to exports to the nonsocialist countries, a number of serious problems from the standpoint of increasing the competitiveness of our products and improvement of merchandising by the foreign-trade organizations. There were also other influences which could not have been foreseen. For example, the use of the hard-currency incentive fund which amounts to almost Kes 1 billion had to be strictly regulated in accordance with the payments requirements of the Czechoslovak national economy. As to the Koruny incentive fund, the limits set for certain areas prevent from making full use of it. For these reasons, several measures are being proposed for improvement of merchandising in foreign trade. Under discussion are measures which are designed to stimulate material interest in profitable exports, economical imports and more thorough and more flexible interlinking of VHJ with OZO [foreign trade organizations].

In exports, the allocations to the incentive funds depend upon the FOB prices, wholesale prices and export margin indicator. This triad of conditions was not effective in some instances because of the conflict in valuation at FOB and wholesale prices.

The development in 1981 confirmed the correctness of the decision to make VHJ the basic level of management with all necessary departments including design, research and development. At the same time, it pointed to the necessity of a differentiated approach particularly with reference to the big enterprises.

We must take into consideration also the experiences from other socialist countries which would simplify the supplier-customer relations and would enable us to rationalize the utilization of raw materials as well as material needs.

For the area of capital investment, the Set of Measures specified a complex of procedures designed to increase its effectiveness, strengthen the khoz-raschet principles, shorten completion deadlines and reduce the scope of unfinished construction projects. Even if we take into account that this is an area in which long-term factors operate, it must be said that a number of adopted measures were not implemented or their implementation was hindered by some difficulties which our national economy is encountering. The system of management has not as yet solved some systems problems, such as incentives for reducing budget cost, shortening of completion deadlines, submitting of invoices for already completed stages of investment projects, incentives for all participants in capital-investment projects and so on. Some adopted measures gradually begin to produce effects--for example, the use of the development fund depends more than in the past on the profitability of investment projects. It is a positive fact that in contrast to the preceding years the total construction cost of projects below Kcs 2 million RN [budget cost] were not exceeded in 1981.

Due to its small share from profit in particular, the development fund did not prove effective enough as an incentive tool for production of profit. It is, however, appreciated particularly by the VHI because it enhances the authority of lower levels of management.

The interest in technically progressive products and products of higher quality was effectively promoted by the quality-goods markup which contributed to increasing the share of these products.

The enterprise sphere achieved a considerable scope of quality-goods markup in 1981, amounting to Kcs 3.5 billion of which prime-quality products accounted for 43 percent and fashionable and luxury products for 38 percent. Subquality-goods discounts amounted to Kcs 120 million (Kcs 117 million for the third-grade quality and Kcs 3 million for technically obsolete products. It is clear that the problem of lower prices for substandard products has not yet been satisfactorily solved. A comprehensive system of penalties has not been devised for the technically obsolete products in particular, but price discounts on them, amounting to Kcs 2.6 million in 1981, were the smallest since 1977.

The approved system designed to stimulate interest in the regulation of the labor force, particularly during the stage of counterplanning, did not result in specific savings in 1981.

On the basis of the centrally issued principles, the general directorates formulated the guidelines for further improvement of khozraschet in the enterprises. It is assumed that intraenterprise khozraschet will be worked out in detail by the enterprises by the end of 1982. It is impossible to determine the effect of intraenterprise khozraschet as of now, although its application in the preproduction stages produced positive results in some VHI (for example, Sigma Olomouc, COP Gottwaldov and others).

On the basis of findings from the application of the Set of Measures in 1981, it can be stated that the situation had already been overcome when the quantitative approach to planning and to the development of the national economy was of decisive importance. The road of transition to the intensification of the reproduction process has been embarked upon.

Generally speaking, the implementation of the Set of Measures has produced positive results both in terms of changes in thinking of management personnel and their attitude toward efficiency, and in its direct effect on better plan fulfillment and achieving better economic results. This is particularly true of the reduction of material cost, higher adjusted value added, higher dynamism of return on production assets, increase in the ratio of products of higher quality, reduction of unproductive cost, partial improvement in the use of the working time and support of fulfillment of tasks in the final use of industrial products.

On the other hand, it is still impossible to determine the effect of the Set of Measures on long-term factors, such as acceleration of scientific-technical progress, substantial increase in the effectiveness of capital investment and of foreign trade.

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CHEMICAL, PHARMACEUTICAL FIRMS MODIFY PRODUCT STRUCTURE

Budapest NEPSZABADSAG in Hungarian 11 Aug 82 p 10

[Article by Botond Lanyi: "Participation in a Governmental Program"]

[Text] In the following, we wish to demonstrate the effects of industrial utilization of research results, and of international labor distribution and CEMA cooperation on the economy of enterprises, based on the experiences of a research institute and of an industrial firm. The common trait of the two economic units is the close relationship of the research institute with industry as it also produces industrial installations. On the other hand, research has a very important place among the activities of the chemical firm.

In times of moderate growth, it may perhaps be unusual for an enterprise to set up a Five-Year-Plan aiming at more than 10 percent annual production increase and to develop its profits accordingly. Moreover, the results of the first year and a half confirm this rate, well above the average. This jump until 1985 has been undertaken by an enterprise in Szabolcs Megye, the Alkaloid Chemical Works, located in Tiszavasvari. The firm participates in the realization of the central development program involving the production of medicinals, plant protective chemicals and intermediary compounds based on the Soviet-Hungarian agrochemical agreement; it is one of the largest producers of plant protective materials. These are the grounds on which the confident outlook of the firm is based and which make possible the building of new production capabilities and modernization of the production mechanism.

The Third Jump

The sixth Five-Year-Plan represents the third jump in the development of the firm which employs two and a half thousand workers. Originally, about 50 years ago, the firm was established to utilize the patent of the founder, Janos Kabay, for producing morphine alkaloids extracted from poppy heads. By the early 1970's it entered the rank of the large pharmaceutical firms with a billion in investments. At the same time, it expanded its production to include antimalarial compounds and other sedatives. Already 10 years ago, they started to develop their profile to produce plant protective materials.

They obtained a license, improved on a production method. Based on this, they reached the current stage at which, mostly through their own means, they are putting another billion into investment to provide the conditions for expanded production and export. They are planning a nearly threefold increase in ruble export (in the agrochemical agreement, the products delivered in exchange are in the category of so-called hard goods). Compared with 1980, a two-thirds increase in dollar export is planned by 1985.

Product Changes

The gradual change in product composition is motivated by economic factors. While in 1980, the ratio of perspectival products was 57 percent, by 1985 these will represent 75 percent of the total production. This industrial branch is also characterized by relatively rapid changes in product. The situation is made more difficult, however, because introduction of the new product demands a suitable research background and considerable investment activity. Protection by patents provides 5-10 years of advantage, at the most, from the time of introduction. Therefore, the research and investment spendings must also be recovered during this period.

Indeed, responsiveness to market demands induces the firm to further expand its plant protective chemical production profile. Instead of earlier, smaller measures, the agrochemical agreement opens the door to a production volume which justifies the establishment of a profitable size of the plant. Because of this, the nearly two-thirds ratio of pharmaceutical production at the beginning of the plan period will be reduced to below 50 percent by the end of it. Of course, this does not mean an elimination of products as they plan to market six new products. Only four outdated products are being eliminated.

Implementation of the developmental program was begun by the firm before signing the credit agreement. The regrouping of their own means represented a realistic risk in the interest of gaining time. Because of this, by the end of last year, the pilot plant could begin operation at the required technical level in the active ingredient-producing plant. Thereby they made it possible to deliver, as of this year, plant protective chemicals valued at 18.3 million rubles on the basis of already signed agreements.

Participation in the governmental program is built not only on the work of firms directly participating in production but also on the integration of supporting enterprises supplying basic and intermediary materials. In the case of glyphosate this presupposes basic materials produced from domestic or from socialist imports instead of the earlier capitalist imports. This necessitates the timely establishment of a relationship with domestic enterprises based on mutual advantages. Production of one of the most valuable intermediates, glycine, was already begun by Nitrochemistry. By next year, the other intermediate, dimethylphosphite, will also be produced by a domestic plant.

Research Organization

In addition to the currently existing product structure, one must already anticipate the demands in ensuing years and the research efforts must be

structured accordingly. By implementing the governmental program, the reorganization of the Pharmaceutical Research Institute, the Medicinal Plant Research Institute and part of the Research Institute of the Organic Chemical Industry into a joint research establishment is providing a basis for the production firms. A research development council was established for this branch of industry. These and an inclusion of the university research institutes provide one base for the production of new preparations. It has to be recognized, however, that providing a broader research base within the firms is at least of equal importance. In ensuing years, the industrial research personnel will be increased by about 50 people but it is at least as important that suitable conditions be provided for their work in the large village in Szabolcs Megye. During the same plan period, 17 new types of pharmaceutical base materials and preparations, and 9 plant protective materials are slated for production. The technical installations are largely available or the production requirements can be provided for by the supply of more highly productive chemical-industrial machines. The current developments are different from earlier ones insofar as the increased production rates are attempted primarily by increasing productivity. The total number of workers will be increased by a mere 3.7 percent even after the investments.

There is extremely high world market competition in the pharmaceutical industry. This requires increased attention to the market but the somewhat sluggish modernization of foreign trade relations often make the job of the firms more difficult. On the other hand, participation in the governmental program, respectively, in the agrochemical agreement cannot result in complacency in anticipation of the secured Soviet market. Namely, the further success of the five-year agreement is also dependent on the ability of the enterprises to renew themselves.

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CSO: 2500/765

PROBLEMS OF WAGES AND SOCIAL BENEFITS DISCUSSED

Problems of Salaries

Warsaw ZYCIE GOSPODARCZE in Polish No 30, 15 Aug 82 pp 1, 4

[Article by Irena Dryll: "How to Remunerate": passages enclosed in slant-lines printed in boldface]

[Text] /It is being said--and not without reason: as wages go, so goes the reform. It is also being said that an economic reform without a wage reform would stall. It is further said that the reform, to be sure, does offer the chances for linking wages to the growth of output and productivity, but that this potential force of the reform is fettered by the existing systems of remuneration and the pertinent traditional rules of the wage game. And it is high time for the reform to change these rules radically./

The situation is so ripe that, in a sense, the soil is prepared. For the reform has introduced completely new principles of setting up remuneration funds in state enterprises, having abolished limits on budget subsidies for employment and the wage fund. Now the enterprises set up remuneration funds on their own as related to their financial possibilities and determine their own principles and criteria for granting bonuses and other awards to their employees. As of 1 July of this year, pursuant to Decree No 135 of the Council of Ministers, they also gained broader rights for remunerating their employees and setting up the intraplant wage structure.

Such are the /first symptoms of the rejecting competition between the center and the autonomous enterprise/ so far as the wage policy is concerned. In the reformed economy, this policy must be moved "to the ground floor": the main burden of the wage policy and responsibility for it will thus slowly descend from the top to the bottom, onto the enterprise, where the funds for the remuneration of labor are earned.

What is the rate of that "descent" to be, and what is the division of powers between the center and the enterprise to be like? This appears to be a key problem of the wage reform. In the preliminary assumptions drafted by the

Ministry of Labor, Wages, and Social Services, the reform of the principles of remuneration (published as an insert to RZECZPOSPOLITA) devote a great deal of attention to this question.

The ministry represents the viewpoint that the center should not be relieved of the obligation of formulating the basic principles of the wage policy and of the responsibility for shaping the basic proportions in the levels of emoluments, both "vertically," as regards the top and bottom wages, and "horizontally" in the sense of the proportion of emoluments gained by large groups of workers in intersector and intersubsector systems. And since that is so, the center should retain the following /rights/: the determination of the minimum-wage level, the maximum and minimum basic wage rates or guideline-type but universally binding wage tables, guideline-type principles for the determination of wage categories, and some minimum mandatory fringe pay allowances, such as overtime pay levels or extra pay for work seniority. Other tasks of the center would be to determine a universally mandatory equilization tax that would restrict any "earnings spirals" and the growth rate of wages and principles of remuneration in the budget sphere, as well as to shape intersector and intersubsector proportions of emoluments through correspondingly differentiated FAZ [Vocational Activization Fund] taxes levied on wage increases. There is thus no fear that, so far as wages are concerned, the center will wash its hands like some biblical Pilate. On the contrary--as can be seen....

The enterprise, on the other hand, basing itself on centrally outlined main directions of wage policies, would pursue its own wage policy by determining the specific wage categories for the jobs and work stations it provides and preparing plant wage tables, inclusive of intracategory tables specifying so-called horizontal promotions. And that would be just about the whole nature of the innovation. As for the remainder of the rights mentioned in the ministry's concept, those are rights that have long been granted to the enterprise (e.g., the possibility of selecting the forms of remuneration--whether it is to be piecework or hourly wages), as well as the evaluation of the performance of workers as a criterion for their promotion, and also--since recently--e.g., the right to determine the principles for granting bonuses and awards, including those awarded from profits.

A Check for Survival

I believe that the expediency of this division of powers is a question to be considered by the representatives of both parties--the center and the enterprises. But it does appear that, in its desire to hold the reins of wage policy and leave to the center so many (perhaps too many?) instruments suitable for this purpose, the ministry has overlooked the basic issue, namely, the question of the manner in which the center could ensure that wages would be wages rather than welfare benefits or payments for reporting for work.

I was told at one plant: "We do not want to and cannot any longer pay workers just for entering through the plant gate and for the number of children they have. Generally, everyone is of the opinion that /wage policy should be released of its social function/, because this function is most ruinous to us and deprives wages of their incentive factor."

Wages are supposed to encourage work; and, thus, the system should be strongly "aggressive": good pay only for good work, alongside symbolic or no pay for little or no work. But this is only one side of the coin: the [emphasis on the exclusive] sole motivational function of wages, considering that their other, income-providing or social function determines our standard of life.

In the current crisis, /wages become, as it were, checks for survival from the treasury, welfare payments/. But this latter function cannot be simply annulled; instead, it has to be ceded to someone or for something. From the standpoint of social interest, especially at a difficult time like the present, a compromise has to be sought between these two extremes: in addition to the wage concept, a cohesive /concept/ of social policy and, even more broadly speaking, /of incomes policy/ has to be /worked out/. For wages cannot be "taken out" of their social "sauce" without proposing anything in return. Especially considering that currently they primarily fulfill precisely that social function. The very inclusion of the present-day compensation payments in basic wages--as proposed by the ministry--will change nothing here. It may doubtless be a justified measure, but only in the short run. Inflation will force a search for new ways of reconstructing or substructuring the social function, unless it is taken over by other channels for shaping the incomes of working people. It appears that /the absence in the ministry's concept of any proposals in this respect is the first "soft spot" in the preliminary assumptions as to the directions of emoluments for labor/.

I believe that this is worth considering and the starting assumptions should be complemented with either, e.g., principles of a wage-dependent compensation for the rise in living costs or--at least in prefatory form--a concept for the transition of this function of wages to an efficient system of social policy (revalorization of family allowances and old-age pensions and annuities, expansion of social service centers, etc.).

Also to be considered is the problem of the institutional integration of income-shaping measures. This has been suggested at a scientific conference by Dr. Stanisława Golinowska of the Planning Commission. To be sure, this takes time and requires appropriate solutions within the organizational structure at the central level, but the game is worth the candle, considering the current lack of coordination of measures taken in the sphere of personal incomes with the object of preserving market equilibrium (the Planning Commission and the Office for Price Affairs) with measures taken by working out a solution regarding the principles of the remuneration of labor and social services, as indicated at least by the concept of wage reform discussed here, and by adopting current price and wage decisions (the Ministry of Labor, Wages, and Social Services [MPPiSS], as well as adopting current wage and price decisions (the Economic Committee of the Council of Ministers), and the tax agencies (Ministry of Finance). To be sure, there is mutual consultation on the decisions but--is it enough? Dr. Golinowska proposes that /the integration could consist in granting to some one central institution, e.g., the Ministry of Labor or the Planning Commission, all powers in the field of coordinating personal income /.

Another "soft spot" of the assumptions for the reform of the wage system is the question of wage rate scales or, as Prof M. Kabaj wants to put it, of the valuation of labor.

The general view is that the existing rate scales for labor and for occupational categories are obsolete, relatively rigid, and hardly suitable for the needs of the reform. The ministry's position is that the fairest solution would be, on the one hand, the determination of rate-scale guidelines that would be as universal as possible and, on the other, to conduct on this basis a "central valuation" of the most typical, "principal" work categories in discrete sectors and subsectors. Even if such a centrally performed "valuation of the price of labor" were to lack a commonly binding nature, it could be used as a standard of reference for the enterprises working out their own wage rate-scales.

/Good./ But where is to be found such a "model system of wage proportions based on coefficients for determining the range of the wages pertaining to different job positions and operations," mentioned in the ministry's concept?

Were such a "central valuation" to be performed, and were such a "model system" to be ready, there would be something specific to discuss. But for now the only specific thing that can be discussed in this respect is the wage spread of from 1 to 2.8 adopted in the assumptions of the wage reform, in which the basic wage calculated together with compensation payments of 30 zlotys per hour, would be paid to an unskilled worker performing auxiliary labor under normal conditions that require a normal effort, while the maximum wage, 84 zlotys, would be paid to a specialist performing especially complex skilled labor under especially arduous conditions, requiring special effort. I doubt whether such a wage range is broad enough.

Out of the 3,000 to 4,000 occupations and professions practiced in Poland, the most common ones number 80-100, and it is these that could provide the basis for a so-called "spread map" that deserves public discussion, especially considering that the ministry "admits" the existence of improper ratios and spreads of labor remuneration.

/The gravest accusation against the existing system of remuneration is the fact that the response to each of the three waves of escalation in public mood--in July, after August, and in the fall of 1980--took the form of wage increases. But despite this, despite spending nearly 200 billion zlotys on increases in wages and pay allowances in late 1980 and early 1981, not even a relatively efficient "incipient system" of wage proportions has been created. The ministry justly blames this on the fact that these increases had been dictated by emergencies, by the contemporary sociopolitical situation, and made in a hurry. It appears though that the fault is chiefly that of the absence of a coherent concept of wages and of the criterion that is yet to be provided by the compensation system.

We Lack Gms

Thus, only the present wage reform is to bring about essential and socially needed changes in the proportions of wages among individual sectors and sub-sectors of the economy--only it is expected to eventually eliminate the disproportions that have arisen over the years.

"A university professor earns as much as a well-performing spinning-mill worker--10,500 zlotys [monthly]--less than a well-performing MPO [Municipal Sanitation Enterprise] employee who formerly used to be called a 'trashman.' Is that good or bad?"

"If an engineer, a brigade leader, a foreman, or a section head earns--as does happen--less than the workers subordinate to him, is that good or bad?"

"Is a day's pay for a worker to suffice (as had been the case years ago) just to buy spring-vegetable soup?" This question is being asked by hourly-wage workers who earn less than their fellow workers paid by piecework. "Can a fitter paid on a piecework basis earn more than an hourly-wage fitter who belongs in a higher work category? Why?"

A young engineer asked: "I studied for 18 years and my salary is 6,000 [zlotys, monthly], whereas my classmates, who did not study [engineering] are paid 10,000 on the average. I'll be entitled to that 10,000 after 10 years. Why?"

"As a driver for the State Motor System [PKS] I earn much less than a Transbud [Transport Construction Enterprise] driver. Why?"

Hundreds and thousands of questions of this kind are being asked at factories and institutions. The pressure on wages owing to the rise in living costs is reinforced by what the public views as unjustified wage discrepancies and disproportions. The traditional methods of analyzing wage proportions and their results in the form of "averaged" data are of no help in this respect.

Prof Wieslaw Krencik stated in ZYCIE GOSPODARSTWA (No 5, 1982): "The existing structure and range of wages have their reasons. So that they may change in the desired direction, the causes of the current situation have to be thoroughly analyzed and, on this basis, these causes have to be eliminated. Demands for changes without such analysis are dangerous, very dangerous. A change in the existing structure and range of wages would require a thorough wage reform."

We are facing such a reform, and the discussion of its assumption should be extended to the presentation of concepts of the structure and range of wages--concepts which are absent from the assumptions. Yet, from the standpoint of the social atmosphere as well as of the productivity and quality of labor, the range in wages between those paid to, say, a plant director and a capable designer, a minister and a fitter, a miner and a weaver, is a burning issue. A wage is the price of labor, and the labor market shapes it in accordance with the law of supply and demand, or at least influences it. What is the direction in which the central authorities want to channel this elemental

process, and will they be capable of channeling it? Judging from the assumptions presented, this direction is unknown as yet, and the possibilities are modest. All we find out is that "the determinant of the proportions of remuneration among the various wage categories should be a new guideline compensation system, on the assumption that (...) this will be accompanied by drafting model valuations of the most typical work categories(...)."

That is, first of all, we lack guns and we discuss the wage reform in the dark, without knowing what its "spine"--that is, apparently, the system for the valuation of labor--looks like. Discussion of belt-tightening measures and of the restructuring of the internal structure of wages as well as the pertinent interesting concept of the ministry (which I shall try to consider in another article) will hardly settle the question of the reform of labor remuneration.

/As experts envisage it, the economic reform will increasingly differentiate wages. But the already existing differentiations, such as those of the inter-sector kind and the attendant intervoivodship differentiations, are already substantial./

Thus, e.g., in socialized industry on the voivodship scale, the highest average [monthly] wages (inclusive of compensation payments for workers) in the first half of the year were paid in the voivodships that lead in the extractive (and shipyard) industries: Katowice (16,739 zlotys), Legnica, 13,147 zlotys; Walbrzych, 11,256 zlotys; Konin, 11,099 zlotys; Krakow, 10,487 zlotys; and Gdansk, 10,430 zlotys. The lowest average wages were paid in Ciechanow Voivodship--8,461 zlotys, as well as in the Przemysl, Lomza, and Siedlce voivodships. In Warsaw City Voivodship, the wages averaged 9,744 zlotys.

The situations and possibilities for paying wages depending on the plant and sector of industry were just as differentiated. It does not appear possible to adhere in every case to the crucial doctrinological principle of "to each according to his labor."

A representative of one of these "worse" plants told me: "We pay less, but we squeeze out more sweat." It appears that the wage reform will not provide a prescription for defusing the conflicts it will eventually engender. Neither the central authorities as a whole nor the Ministry of Labor provide a specific answer to the question of how much to pay and to whom. /An answer to this question can be provided only by a wage policy that is actually conducted at the "ground floor" level, that is, by the enterprise, but which should be shaped by and based on general principles to be outlined at "the top."/

Hence, in addition to the problem of the compensation scale, another highly essential aspect of the assumptions of the reform of labor remuneration is the question of plant compensation-scale tables. The ministry has submitted for discussion as many as four variants of such tables and, unlike the aspects discussed above, these represent a strong point of the entire concept. The ministry itself does not favor any one of these variants, as it awaits the opinion of the enterprises.

Who Can Have the Monopoly on...the Tables?

For the present, no one, since the guidelines for these tables are, in accordance with Decree No 133, determined by the central authorities, with the enterprise itself--if it wants to--determining the specific contents of these tables as based on its own system of preferences, wage system, and hierarchy of wages adapted to its own plant needs.

Let us again bear in mind that enterprises can--upon observing the principles of the system for financing labor remuneration--determine their own plant compensation-scale tables for their blue- and white-collar employees. As specified in these tables, the base-pay rates must lie within the range of 16-40 zlotys an hour (for blue-collar workers) and 2,800-12,000 zlotys monthly (for white-collar workers). The number of mandatory blue-collar work categories is to be 11 (previously 9), while that of white-collar categories is to be 22 as before. In principle, the internal structure of the table should be of concern only to the enterprise. Enterprises may (but do not have to) pay different wage rates for the same work category, e.g., for category 9, from 20.50 to 36 zlotys or from 27 to 32 zlotys, etc. This affords a possibility--a modest one for the time being--for applying so-called horizontal promotion: the differentiation of earnings of workers holding the same position and performing the same work. Some perform it better than others, worse, and the point is that these differences in performance should be taken into account. To be sure, the wage rates could have been higher--up to 45 zlotys an hour and up to 14,000 zlotys a month but, considering that these are interim solutions anyway, this is not an issue worth disputing.

The question of determining the compensation-scale tables independently of emergency decisions for the present and the immediate future remains open, on the other hand. Assuming that the tables should be adapted to the needs of the enterprise's activity, the nature of the technological process, working conditions, and type of production, and the labor market which sets different valuations of labor in different regions, the following solutions are possible in this respect:

Variant 1: the enterprises receive full freedom of determining the tables/ on the basis of solely the minimum wage and their own financial possibilities and negotiations with the trade unions (of course, this concerns a situation in which the suspension of the trade unions will be revoked).

Advantage of this variant is its flexibility, but it has the defect of lack of uniformity, which may result in a considerable differentiation of wages at different enterprises, which will further augment and deepen the wage problem that is already such a burden on the economy. The [plant] directors will have their wish granted and will be able--if the plant performs profitably--to let people earn something and to pay experts unconventionally, but this means that at the same time some of the poorer plants may be denuded of their experts. Would not such a solution deal a death blow to the "weaklings" which often operate poorly not through their own fault but owing to the so-called "arrangements"? Would not this add to the already substantial "punch" of the

stronger plants?" I do not know, but I believe that all sides of the situation must be considered.

/Variant 2: the central authorities determine the guidelines for compensation-scale tables along with maximum and minimum wage rates, while specific compensation-scale tables based on these guidelines are determined either by the founding organs or by discrete sector-of-industry associations and negotiated with the trade unions./ The enterprises would simply receive compensation-scale tables specified and "settled" at the top- and middle-echelon levels.

This variant satisfies the requirement of uniformity, but it conflicts with the principle of feasibility and each of the "three S's" [self-financing, self-determination, self-government of enterprises]. Under the current reform, as it appears, no one outside the enterprise may undertake wage obligations in the enterprise's name, and the preparation of such tables is, so to speak, a blank check signed by the side preparing them. But proponents of this thinking do exist. It is to be hoped that in this case words will not be followed by deeds.

/Variant 3: the central authorities determine the guidelines for compensation-scale tables so as to emphasize the minimum wage rates, while the individual sector associations will determine, upon consulting the enterprises belong to them, guidelines for a uniform (differentiated) association-wide table of compensation scales./ On the basis of these guidelines, the enterprises will draft their own specific compensation-scale tables suited to their financial possibilities and principles of labor remuneration. This variant is a compromise between the principle of uniformity and the principle of flexibility. It is difficult to expect, though, that it will satisfy everyone.

/Variant 4: the central authorities will determine the minimum wage rates and the differentiated--for individual associations sectors--coefficients of the range between maximum and minimum wage rates. As for the specific rates in zlotys, they will be determined by the enterprises themselves./

Some people at enterprises speak in favor of abandoning any such tables and maximally simplifying the wage principles on the basis of paying so much per day and so much per piece, kilogram, or linear meter. This is what is being done at companies established on the basis of investments in Poland by persons of Polish extraction living abroad, as well as at artisans' workshops. The wages paid there are sufficiently high to provide an incentive for work, and the judgment of one's performance by one's immediate work supervisor provides sufficient motivation for good work. It is difficult, though, to decide in advance whether something that works well for small teams of workers functioning within the framework of a different system of incentives in the non-socialized economy would work as well at large enterprises of the socialized economy. Nevertheless, the tendency to "loosen" the enterprises and transcend the rigid framework of tables will of a certainty continue to grow.

* * *

Will the wage reform result in the decline of the compensation-scale tables or in their simplification and basing on a concept of wage ranges more suitable to the needs of the economic reform?

It appears that practice will answer this question, and soon at that. Many plants are independently attempting to modify the plant wage system and wage experiments, about some of which we had written recently, have become fashionable. Wages, like diseases, are generally familiar to all, as has trenchantly been said by a ministry expert. But "ground-floor" experts reply: "We have 12 million wage earners, including half a million people who attend to wages in an official capacity. Wage maneuvers have been under way for 30-odd years now, but what we have, we have." It is interesting what will be the end-result of these attempts and controversies.

The deputy minister of labor, Krzysztof Gorski, provides this encouragement on the behalf of the team of authors of the assumptions of the wage reform: "Let us consider together the wage reform: what wages should be paid to encourage industriousness, inventiveness, and initiative, and to make them worthwhile? What wages should be paid so that Poles 'would desire to want' to work well in Poland, in the socialized economy, at present, during these difficult first few years of the 1980s?"

Yes, what wages?

Wages and Social Benefits

Warsaw PRZEGLAD TECHNICZNY in Polish No 9, 8 Aug 82 pp 26, 27

[Unsigned article: "Wages and Living Costs"]

The average wage in the four principal fields of the material sphere (industry, construction, transport and communications and trade) last May was 10,625 zlotys [monthly], inclusive of compensation payments for workers but exclusive of the compensation paid to their family members. More specifically, in industry this wage averaged 11,336 zlotys; in construction, 10,762 zlotys; in transport and communications, 9,944 zlotys; and in trade, 8,240 zlotys. The Statistical Bulletin of the Main Office of Statistics (GUS) also provides data on the level of these wages in the previous months and years. On this basis, a composite table of the evolution of the nominal average wage in industry between January 1981 and May 1982 has been compiled.

The table also links that wage to the rise in living costs during a given month as compared with January of last year. For example, when 8,468 zlotys (the nominal wage in January of this year) is divided by the index of the rise in living costs in January of this year as compared with January 1981, an index which amounts to 153.4 percent, it turns out that the average monthly wage amounts to 55.2 zlotys.

Table 1. Evolution of the Nominal Average Wage in Industry
Between January 1981 and May 1982

	January	February	March	April	May
Average monthly wage in socialized industry, inclusive of compensation [for rise in costs of living] to workers (but exclusive of compensation payments to their family members), in zlotys	8,468	10,424	11,676	11,332	11,336
Average monthly wage in relation to the rise in living costs in a given month as compared with January 1981, in zlotys	5,520	4,824	5,077	4,779	4,642

NOTE: The indexes of rise in living costs in relation to January 1981 were taken at 153.4 percent for January of this year, 216.1 percent for February, 230.1 percent for March, 237.1 percent for April, and tentatively 244.2 percent for May.

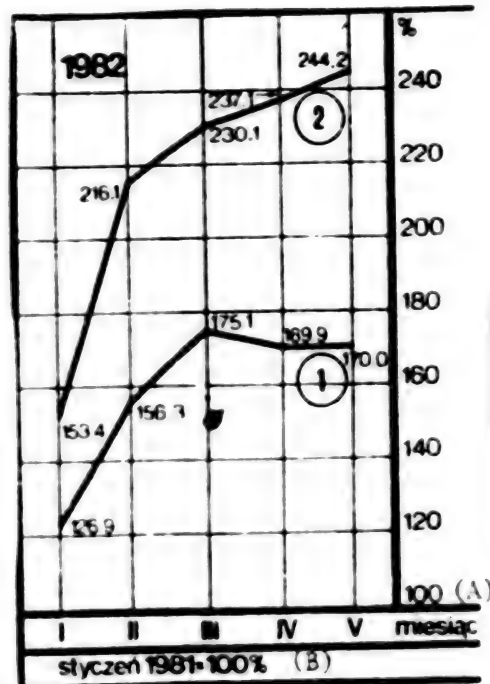
The diagram below shows the indexes of rise in nominal wages and rise in the living costs of the families of workers employed in the socialized economy during individual months of this year as compared with January 1981.

The table and the diagram are limited to the average figures for socialized industry, and thus they do not reveal the differences among wages in individual sectors and subsectors of industry--differences that are quite substantial. These differences are chiefly due to the relatively greatest wage increases in the raw materials industries, and chiefly in coal mining, where even earlier wages had been relatively high.

Marked differences in wages also exist among different sectors of the material and nonmaterial spheres as well as among different regions of the country.

In the so-called basic branches of the material sphere in which wages have been good (industry, construction), wages have registered a smaller decline in relation to living costs than in the branches in which wages had been lower (trade, transport and communications).

Relatively low indexes of increase in nominal wages characterize nearly all branches of the nonmaterial sphere, especially science and technological development, as well as the administration of justice and law enforcement, finance and social insurance.



Key

- (1) Average wage in socialized industry
- (2) Living costs in households of workers employed in the socialized economy
- (A) Month
- (B) January 1981 = 100 percent

In the regional cross-section, nominal wages in socialized industry (exclusive of compensation payments) increased more than 30 percent in only two (Katowice, Walbrzych) of the 49 voivodships, while in 24 voivodships they rose from 20 to 30 percent and, in 13, to below 20 percent.

Cost of Living Support

Warsaw ZYCIE GOSPODARCZE in Polish No 30, 15 Aug 82 p 2

[Article by Ch. M.: "Living Costs, Wages, and Incomes"--From Materials of the Main Office of Statistics [GUS]]

[Text] Two weeks ago, we had reported, on the basis of a GUS communique, basic figures on the growth rate of living costs and wages in the first half of this year as compared with the first half of 1981. (See ZYCIE GOSPODARCZE No 28, 1982). In that issue, too, we had recalled "The Need for Action" (ZYCIE GOSPODARCZE, No 18, 1982) and the fact that, among other things, the index of the growth in incomes of persons employed in the socialized economy (comprising remuneration of labor, allowances, and compensation payments) in the first half of the year amounted to 153.5 percent, while the index of living costs

was 203.9 percent. Comparison of these two indexes indicates that, in relation to living costs, incomes declined by about 26 percent compared with the first half of last year.

The same GUS communique also reports that the average nominal wage per employee in the socialized sector of the economy in the first half of 1982 was 9,930 zlotys [monthly] inclusive of compensation payments for the increases in retail prices and 8,420 zlotys without the compensation payments. The average compensation payments accounted for 1,510 zlotys or 45.5 percent of the 3,101-zloty increase in the average wage compared with the first half of 1981, while the wage increase itself, due to price increases and changes in principles of remuneration and promotions, amounted to 1,591 zlotys.

When the indexes of increase in the nominal wages of the employees of the principal branches of the national economy are divided by the index of living costs, the index of the decrease in wages in relation to living costs can be deduced.

The ratio of rise in wages to rise in living costs generally averages 71.3, of which for industry, 74.0 (and for extractive industry alone, 84.8, compared with 70.5 for the processing industry); for construction, 66.3; for transport, 65.0; communications, 67.5; trade, 67.6

The increase in wages for industry as a whole has chiefly been due to the wage level of the extractive industry, and especially of the coal industry, which is linked to the work of miners on free Saturdays and the increase in output and labor productivity that they achieved. The average wage in the coal industry for the first half of this year, inclusive of compensation for workers but exclusive of the compensation for their family members, was 22,900 zlotys, and it increased 174.8 percent compared with the first half of last year. Dividing this index by the 203.9-percent increase in living costs, we find that the index of the decline in [real] wages in relation to living costs in that industry was 14.3 percent.

From the standpoint of the problems considered, it is also essential to take into account the level and growth rates of wages in the other branches of the national economy (branches other than basic) as well as in branches of the nonmaterial sphere. However, operative statistics in that field are absent. The decrease in the ratio of wages to living costs in these branches during the first half of this year as compared with the first half of last year may thus have been somewhat--about three points--greater than in the basic branches.

The ratio between the level and growth rate of wages in the individual voivodships has also changed. Statistics on wages paid in the individual voivodships in relation to living costs in socialized industry, indicates that, except for one voivodship, [real] wages decreased by more than 24 percent (in the first half of 1982 as compared with a like period last year) in relation to living costs. The exception is Katowice Voivodship, in which wages decreased 18.8 percent. In the other voivodships [real] wages in socialized industry

decreased [in relation to living costs] from 24.3 percent (Walbrzych Voivodship) and 24.3 percent (Konin Voivodship) to 32.9 percent (Gdansk Voivodship), 31.2 percent (Warsaw City Voivodship) 31.1 percent (Szczecin Voivodship), 31.0 percent (Slupsk Voivodship). In addition, [real] wages in socialized industry decreased by more than 30 percent in the following voivodships: Ciechanowice (30.9 percent), Kielce (30.7 percent), Zielona Gora and Czestochowa (30.4 percent), Lodz City and Sieradz (30.2 percent), and Krakow City and Gorzow (30 percent).

in the remaining 34 voivodships, real wages in socialized industry decreased somewhat more steeply in comparison with the nationwide average (26 percent) and not more than 30 percent; in 21 voivodships, they decreased from 28 to 30 percent; and in 13 voivodships, 26 to 28 percent.

These differences derive chiefly from the branch structure of industry. The more favorable ratio of real wages to living costs in Katowice Voivodship is chiefly due to the wages of miners. In the voivodships where the share of extractive and raw materials industries is higher, the decline in real wages was somewhat lower. In their turn, the compensation payments slowed down the decline in wages in relation to living costs) in the voivodships in which the wage level was relatively lower. Hence, too, the largest decline in the ratio of wages to living costs took place in the voivodships in which the share of the processing industry was predominant (Gdansk, Warsaw City) and the wage level had been relatively higher. The uniform compensation payments granted everywhere did not slow down as much in these voivodships the decline in [real] wages in relation to living costs.

Allowing for the index of the increase in living costs for the families of pensioners and annuitants (215.0 percent), the index of real income from pensions and annuities in the first half of this year was 72.3 compared with the first half of 1981.

In comparison, it is more difficult to calculate the level of and changes in the incomes of farmers. The aforementioned GUS communique states that, among other things, private farmers gained about 240 billion zlotys (in current prices) from sales of agricultural products to the state in the first half of 1982, i.e., 70 percent more than in a like period last year, chiefly owing to the marked increases in the procurement prices of agricultural products in 1981 and in February of this year. To calculate the incomes of farmers, allowance should be made not only for their earnings from sales of agricultural products to the socialized procurements system by also for, among other things, their natural consumption in kind and incomes from nonsocialized economy as well as expenditures on production and investment purposes--where prices also increased markedly.

In this respect, some indirect possibilities for assessment are provided by certain representative studies and macroeconomic data, such as the information provided by the preliminary findings of the studies of family budgets for the months of January to May 1982 and the estimate for June based on data pertaining to the balance sheet of personal incomes and expenditures of the population. It is estimated on this basis that the average monthly income allotted

for consumption and investments in peasant households increased 85.3 percent in the first half of this year compared with the first half of last year. Allowing for the index of the rise in living costs in the peasant households (206.9 percent), the index of real incomes of the farmers may be estimated at 89.5.

On recapitulating the observations ensuing these assessments of statistical data, it can be stated as follows:

-- living costs in the first half of this year, as compared with a like period last year, increased at a much faster rate than personal income, and especially at a much faster rate than the wages of the employees of the socialized economy;

-- the [real] wages of the employees of the socialized economy declined 28.7 percent in relation to the rise in living costs, that is, somewhat more than the [real] incomes of pensioners and annuitants (27.7 percent), and much more than the [real] incomes of farmers allotted for consumption and nonproduction investments (10.5 percent);

-- among the basic branches of the national economy, wages in relation to living costs decreased to a greater extent in transport (35 percent), communications (32.8 percent), and trade (32.4 percent), and construction (33.7 percent) than in industry (26 percent);

-- within the socialized industry, the decrease in wages in relation to living costs was greater in the processing industry (29.5 percent) than in the extractive industry (15.3 percent);

-- regionally, the differentiation of wages has increased, as exemplified by the indexes of the decrease in wages in relation to living costs for industry workers in the individual voivodships;

-- the share of wages and other income from gainful employment in overall income has decreased, while the share of social benefits, such as compensation payments to workers and their family members, has increased. Preliminary estimates ensuing from analyses of family budgets tentatively set at 81.9 percent the share of income from work in total per capita income per family member in workers' families. In the first half of last year, this index was 86.9 percent.

1386

CSO: 1953/858

COUNCIL CHAIRMAN REVIEWS ECONOMIC PROBLEMS

Warsaw KURIER POLSKI in Polish 20-22 Aug 82 p 3

[Interview with Prof Czeslaw Bobrowski, chairman, Consultative Economic Council, by Agnieszka Suchecka: "A Look at the Crisis--Where Are We? What Awaits Us?"; date and place not specified]

[Text] [Question] The crisis has spread to all spheres of life. The fight against it is difficult, accompanied by hope, doubts and many uncertainties. People are becoming more and more dejected. They want to know what to expect. They ask: Where are we now, at what point are we in the fight against the crisis? Well--where are we, Professor?

[Answer] This is a difficult question and I will answer it only partially. After all, it implies at least three narrower problems: Have we reached the bottom yet, what are the chances of coming out and when, and, lastly, how to accomplish the improvement? Can anybody know everything in full? The socio-economic sphere of life is a very delicate area, full of surprises. But in spite of this, we have extensive knowledge of the crisis. We have developed better awareness of the greatest dangers. In fact, our council recently prepared a report "Business Forecast of the Most Important Elements of the Economic Situation in 1982 and Proposals for Immediate Action," which deals specifically with this matter. But let us go back to the question of where we are.

We are at a satisfactory level of food consumption. Concerning consumption of many industrial goods, we are at a lower level than expected. For example, it looks as though there will be more shoes, but will it happen before the end of the year? Let us hope so!

Concerning agricultural output, for now, everything is in order. I would like to say that, if no especially unfavorable changes in the atmosphere or other catastrophes take place, and, if cities live up to their obligations toward villages, then we should be able to manage with food until the end of the year.

[Question] And after that?

[Answer] Text says we already see some dangers. One-third of our meat was produced on imported fodder. But that does not matter any more, even under the most favorable set of circumstances. I am thinking here about new

credits, favorable decisions concerning installments of our payments, and maximal use of aid from the Soviet Union in raw materials. I am a realist and, as much as I would like to, I do not believe that we will be able to fully accomplish all the tasks. Thus, the import of fodder will be, has to be, smaller in fiscal year 1982/83, unless light industry is sacrificed. This, of course, has not been considered. So what is the conclusion? Unfortunately, it will not be possible to maintain the accomplished increase in meat production. We can partially make up for the difference by increasing production of dairy products.

[Question] And how do you see the situation in industry?

[Answer] An increase can be noted in mining branches. But optimism should not be encouraged yet. I fear that new myths will spring up around the accomplished increase in coal production. It has to increase, but this, by itself, will not solve many problems. Unfortunately, such myths of "half-successes" do develop.

The situation is very difficult in the processing industry. It suffers from a lack of materials. In some areas a decrease in production is seen. Import of supplies from the West should be decreased by half. The cooperation ties have been broken. Besides, in the seventies they were rarely sought out, according to the rule: "things will work out somehow." The fact is that manufacturers try to save themselves in various ways. For example, they often start production of needed parts and materials on their own initiative. They are praised for it. However, this is a typical forced virtue. It does little public good, but, of course, it is better than passive behavior.

[Question] More and more often we hear that many plants cannot function effectively either because of an insufficient number or because of an excess in the workforce.

[Answer] That is true. The attempt at shifts in employment was not successful. I have a right to say that I have warned against serious shifts. In principle, things are worse than I thought. The mechanism of shifts is not working well. And this is not to say that directors are at fault. If I could give a simple prescription to remedy this situation....

Surely, a lot depends on the wage system. An egalitarian wave has swept the country. I have strong emotional ties to it. However, the mind suggests some limitations. I remember the time before World War II when my secretary's salary was 1/10th smaller than mine, i.e., a director's salary. I also remember the years right after the war, when the society accepted equality of poverty. Today it is different. A paradox has developed: as a whole, the society is for equality. But individuals want differentiation in wages depending on qualifications, productivity, etc. Recently worked out modifications of the wage system, which have undergone public discussion, are but a first step toward balancing these opposite tendencies.

[Question] ...the effects of implementing the

[Answer] After half a year, under conditions of the crisis, the reform has had only partial effect. It could not be otherwise. It is a surprise only to naive and uncritical enthusiasts, claiming that, no matter what the conditions are, the reform is "good for everything" and that its effects will be immediate. They are not and they cannot be. In industrial production there is no overall improvement. There are partial results, or results pertaining to certain areas. However, there are many dangers. I do not have to add that such a state of affairs encourages opponents of the reform, which is also very dangerous.

[Question] In the business forecast, two basic groups of problems were isolated. They pertain to dangers from the outside as well as to the internal situation and to economic imbalance.

[Answer] Yes, both problems present many dangers. They also influence one another. The external danger concerns mainly the complicated questions of balance of payments, insufficient export and tremendous burden of payment obligations. We must realize that even under most favorable of circumstances the narrow throat of import can be widened only through an increase in export.

[Question] In the business forecast, it is stated that this year imports from capitalist countries will be \$4.5 billion at the most. During the next 2 years, the possibility of a significant increase in imports is not expected.

[Answer] The document also contains an introductory list of means to stimulate development of exports. They mainly pertain to such measures as improvements in principles of foreign-exchange allowances. However, the most important task is to undertake work on a comprehensive system to stimulate increase of profitable exports.

[Question] What are the greatest internal dangers?

[Answer] They are numerous. They pertain to the whole set of problems causing market imbalance. This is an old malady of our economy. It made its first appearance after the war. At that time, however, rebuilding of production was the main task. Nobody complained about queues, people were simply just to have roofs over their heads. But, as time passed, the situation became more and more complicated, and the malady of market imbalance became more and more acute. As a result of neglect, creeping inflation became galloping inflation. We have not been able to contain it to this day. We run into debts in order to maintain the level of investments and consumption, which otherwise would be even lower. But, as we know, these measures are now exhausted.

[Question] The price adjustments have been applied to the problem of inflation, price adjustments and rationing. How do you evaluate them?

[Answer] The runaway inflation has significantly diminished but that is not to say that we achieved overall market balance. Statistically speaking, there is no improvement. However, a significant imbalance persists in specific areas, and the level of supplies in trade is very low. Well, a total victory over inflation requires many years and much consistency.

[Question] This is not how the attempts to curb inflation have been conducted up to now.

[Answer] But that is because fighting inflation is not a simple matter. The social aspects of inflation should not be forgotten. In the meantime, recent price adjustments affected the poorest most severely, though compensations neutralized the social burden of price increases for food, heating, fuel and energy. It is even worse with the often significant increase in prices for manufactured articles and services. There are no compensations there. From the point of view of social justice and evaluation of our capabilities, such a solution has significant justification: If the economy cannot fulfill all needs, the less important needs have to be sacrificed for staples.

Thus, we will soon have to reconcile two basic problems: insuring higher income for the poor, which is already being done (recent decisions to immediately supplement the lowest wages, retirement pensions, etc.) and intense fighting of inflation through control of the amount of zlotys which enter the market. And in such a way we touch on the problem of income distribution.

The danger of an increase in the runaway inflation is still present, even though, after the price hike for alcohol and other stimulants, there was even a slight decrease. If price hikes, which I often recommended, were introduced earlier, we would not have a direct threat to overall balance today.

According to the council, urgently needed anti-inflationary measures also include higher taxes, as, e.g., a stabilizing tax on goods which could be, by present standards, treated as luxury items, available only to the richest. The equilibrium price would not be charged for them, so, as a rule, they would be sold "from under the counter." These items include cars, furs, color television sets, stereo sets and trips abroad.

[Question] This is a controversial idea. The question arises: Would it not be simpler just to tax the richest?

[Answer] It originates from the council and I believe in the capability and effectiveness of our financial staff. But we know that there are many ways to stabilize income--various, not always legal, pursuits. In addition, we have had much experience with surtaxes. A stabilizing tax is easier to understand. It is simply an tax on specific goods. Such a tax is in accord with the long-time goal of fighting inflation, which can be accomplished through steady increases in production while preserving its structure.

[Question] Opponents of a stabilizing tax claim that it weakens the system of incentives.

[Answer] I am not at all disposed to do without social motivation, but I know that motivation is accomplished nothing when shelves in stores are empty. We must do all we should do to give the worker, the mother, and the child the right to work, to rest, to recreation, to education, to a better life. This will be the only way to achieve a more balanced economy. This will be the only way to achieve a more balanced economy.

[Question] In the course of the last debate in the Sejm over the budget, there appeared first signs of concern about deflation, i.e., about too much money being withdrawn.

[Answer] The Consultative Council wants to disassociate itself from both the policy which is limited to deflation and from consenting to uncontrolled inflation. Our policy has to be based on bringing together specific deflationary measures with the increase of income for the poorest. This has to be done even if rationing has to be continued. I do not believe that it could be generally abolished any earlier than in 2 years.

All those measures require maximal knowledge about the society and the state of economy. We also need a lot of imagination.

[Interviewer] Thank you for the interview.

(30) 1000/895

SPECIAL CURRENCY EXCHANGE RATES PUBLISHED

Warsaw TRYBUNA LUDU in Polish 13 Sep 82 p 7

[Text] Announcement of Exchange Rates Table No 37/82, effective 13 September 1982, by Stanislaw Nieckarz for the president, Polish National Bank, on 13 September 1982.

I. Foreign-currency exchange rates in zlotys for countries of the first payments area [socialist countries] for commercial and noncommercial payments remain unchanged.

In purchases of travelers' checks for rubles, issued by the USSR Foreign Trade Bank and payable outside the USSR in the currency of the country where cashed, an exchange rate of 11,740.30 zlotys per 100 rubles is applied.

II. Foreign-Currency Exchange Rates in Zlotys for Countries of the Second Payments Area [Capitalist Countries]

[Table on following page]

Exchange Rates Table No. 37/82

Country	Curr Symb	Currency	Foreign Exchange		Money		Average
			Purchase	Sales	Purchase	Sales	
			4	5	1	2	6
Saudi Arabia	771	1 rial***	24.93	25.19	--	--	25.06
Australia	781	1 Aust. dollar	83.04	83.88	81.79	85.13	83.46
Austria	786	100 schillings	494.36	499.32	486.90	506.78	496.84
Belgium	791	100 francs	181.11	182.93	178.38	185.66	182.02
Denmark	792	1 kroner	9.89	9.99	9.74	10.14	9.94
Finland	780	1 markka	18.04	18.22	17.77	18.49	18.13
France	793	1 franc	12.34	12.46	12.15	12.65	12.40
Germany	724	100 drachmas	122.76	124.00	106.40	125.85	123.58
Greece	785	100 pesetas	76.92	77.70	75.76	78.86	77.31
Holland	794	1 florin	31.66	31.98	31.18	32.46	31.82
India	743	100 rupees***	891.34	900.30	--	--	895.82
Ireland	782	1 pound***	119.47	120.67	--	--	120.07
Japan	784	100 Yen	33.36	33.70	32.86	34.20	33.53
Lebanon	718	1000 dinars	577.72	579.50	554.04	582.18	578.61
Malaysia	788	100 Mal. dollar	69.16	69.86	68.12	70.90	69.51
Qatar	770	1 dirham***	294.87	297.83	--	--	296.35
Saudi Arabia	772	1 riyal***	16.82	16.98	16.56	17.24	16.90
Singapore	741	1 dollar***	259.58	262.50	--	--	261.04
Switzerland	790	100 francs	181.11	182.93	178.38	185.66	182.02
Norway	796	1 kroner	12.53	12.65	12.34	12.84	12.59
Portugal	779	100 escudos	98.28	99.26	85.18	100.75	98.77
Spain	783	100 pesetas	76.92	77.70	75.76	78.86	77.31
Sweden	787	100 kronor	85.75	86.61	84.46	87.90	86.18
Switzerland	797	1 franc	40.63	41.30	40.27	41.91	41.09
Taiwan	789	100 New Taiwan dollars	13.60	13.74	13.69	13.79	13.71
Thailand	785	100 bahts	5.31	5.35	5.32	5.38	5.34
Turkey	781	100 Liras	100.00	100.18	100.00	100.18	100.09
U.S.A.	781	1 dollar	81.17	81.23	81.17	81.23	81.20

* 1992 - 1993 - 1994 - accounts with the following countries: Bangladesh, Bolivia, Brazil, Cambodia, Canada, Czech Republic, Denmark, Ecuador, Egypt, Finland, France, Germany, Greece, Hungary, India, Indonesia, Israel, Italy, Japan, Korea, Kuwait, Lebanon, Lithuania, Luxembourg, Malaysia, Mexico, Netherlands, Norway, Pakistan, Philippines, Poland, Portugal, Romania, Saudi Arabia, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Kingdom, United States, Uruguay, Venezuela, Yugoslavia.

and the following conditions must be satisfied:

POLISH SHIPPING IN 1981 REVIEWED

Gdansk TECHNIKA I HANDBARKA MORSKA in English No. 3, Jul 82 p Addendum

(Excerpt)

In 1981 the changes in the Polish fleet's quantity were little but they had an essential character. The fact that deserves underlining was building four ships type con-ro each of 22 000 tons d.w. in France, which were the first full container ships in the Polish fleet. These ships were built on terms of credit for French — Polish Shipping Co. whose shareholder are the Polish Ocean Lines, operating ships on bare-boat charter terms.

With regard to this detail that 12 ships of 44 000 tons d.w. were simultaneously sold, broken up etc. in the last year, the Polish fleet increased netto only by 66,000 tons d.w. i.e. by 2.3%. At the end of 1981 it amounted to 322 ships of 4,575 000 tons d.w. including 77 bulk carriers (of 2,630,000 tons d.w.), 33 container and semicontainer ships (of 981,000 tons d.w.), 13 tankers (of 981,000 tons d.w.), one passenger vessel (of 15,000 tons gross) and 7 ferries (of 36,000 tons gross).

The Polish Ocean Lines had in service 166 ships (of 1,199,000 tons d.w.), the Polish Steamship Company — 123 ships (of 3,217,000 tons d.w.), the Polish Baltic Shipping Company — 19 ships (of 21,000 tons d.w.) and Charter-Polish Shipping Company — 12 ships (of 127,000 tons d.w.).

As far as the age of fleet is concerned 24.2% of the Polish fleet is below 5 years, 44.7% from 6 to 10 years, 19.5% from 11 to 15 years and 8% from 16 to 20 years. The average age of ships is 9 years. Apart from passenger vessel and three tankers, which have steam turbine propulsion, all the ships are motor ships.

In 1981 the cargo cargoes by the Polish fleet decreased by 18.2% to 31 979,000 tons, mainly as a result of decrease in volume of the Polish foreign trade by 36.2% to 17 823,000 tons. Lower of the cargoes of inland traffic amounted to 42.6% up to 2 000,000 tons and cargoes between foreign ports to 41.7% up to 15 000,000 tons.

The cargoes of the Polish fleet decreased slightly by 1.7% to 3 000,000 tons. In inland service decreased by 22.2% to 26 424,000 tons.

Considering the types of cargoes there increased only the grain transports (by 6.4% to 6 749,000 tons), general cargo by 4% to 6 254,000 tons. Simultaneously dry bulk cargoes by 11.2% to 4 617,000 tons. Freight of fuel by the Polish ships decreased by 58.3% to 1 891,000 tons, crude oil and petroleum products by 19.7% to 5 746,000 tons, ore by 11.6% to 3 645,000 tons, wood by 3.4% to 1 980,000 tons. Among foreign cargoes transports in containers have increased extremely by 14.3% to 878,000 tons.

The size of the Polish fleet in total maritime transport of the Polish foreign trade increased 21.9% in the last year to 10 874.

Transports of passengers by the Polish fleet in the last year decreased by 4.7% to 1 000,000 tons, confirmed 9.3% to 1 000,000 tons.

The Polish fleet in 1981 was the 10th largest in the world. It was the 10th largest in the world.

IMPACT OF WORLD CRUDE, COAL PRICES ANALYZED

Warsaw HANDEL ZAGRANICZNY in Polish No 4, 1982 pp 17-22

[Article by Jacek Mosciński: "World Prices of Crude Oil and Coal in the 1980's--Premises and Prognoses"; the article is part of a larger study done at the former Institute of the World Economy]

[Text] Crude Oil

In the 1970's, the petroleum market shook up the entire world economy. The causes of this shakeup did not disappear over the past decade. Crude-oil procurement is one of the most important worldwide problems of this decade as well. It is a major factor of our economic uncertainty. Due to the mechanism of price creation in turnover between CEMA countries, world market prices to a significant degree will determine the prices paid for imports from the USSR.

Poland's halting of the import of crude oil from capitalist countries, caused by the current payments situation, may be temporary. Further economic growth does not seem possible without a considerable increase in the consumption of this raw material. Studies show that the 26 to 27 percent share of hydrocarbons in the total of the primary energy consumed is the limitary amount below which one cannot go in a developed country due to the shortage of the technological possibilities for making substitutions, the ecological constraints and the extremely low economic efficiency of substituting other energy carriers for hydrocarbons.¹ Given the anticipated stabilization of deliveries from the USSR, the attainment of such a share of hydrocarbons in primary fuel consumption in the Polish economy would require a considerable increase of crude purchases on the world market.

Our economy's link with the world crude-oil market in the future should be

the ratio of Poland's need for crude-oil imports to the worldwide turnover

the ratio of the amount of expenditures projected for crude-oil imports to

An assessment of the cost ratio leads to the conclusion that our purchases on the world market will always be insignificant compared with the amount of international turnover. If our import from non-CEMA countries increased to 10 million tons annually, it would represent less than one-tenth of a percent of the present export of OPEC countries. Thus, these amounts can be obtained, as one expert put it, "with a little good will" by the major exporters, even if the petroleum market is very unstable. In other words, with few exceptions, placing and implementing orders on the world market should be no problem.

On the other hand, a basic question from the viewpoint of Poland as a small-scale importer who is considering the developmental prospects of the crude-oil market, is that of price changes of this raw material and the factors underlying these changes. If prices continue to jump significantly, even the lowest limits of planned import may be beyond the payment capabilities of our economy.

Two parallel viewpoints may be identified in the forecast of price-change trends on the crude-oil market. The first encompasses the traditional categories of supply and demand, treating the level of prices as the result of the interplay of these two amounts. The second considers the effects of the special situation on the crude-oil market that is affected by the right of the possession of and control over resources for dictating the conditions of deliveries. This divides the area of uncertainty of each prognosis into two distinct fields. It is evident in many ways that these fields not only fall within the scope of other analytical methods, but separate research disciplines as well. This is confirmed in the experiences of the various prognostic tests done worldwide in the 1970's to determine pricing trends. Generally, these tests may be divided into three groups:

1. simulation models, determining the functional interdependence of variables, used to define the various courses of price trends for the world crude-oil market (or the energy market in general);
2. optimization models, based on a similar idea but containing certain optimization procedures, enabling the selection of an optimal pricing trend from the OPEC point of view;
3. balance sheet concepts, not comprising functional interdependence, but with known "input" (consumption "requirements") and determining supply-demand (thus - ratios to particular regions; the well-known WAES, OECD and EXON programs belong to this group).

The relative assessment of the changes in prices of these are not simple and since they are complex, it is premature to make forecasts for the market. It is illusory if they are an indication that sudden unexpected breaks in supply must occur further to be accurate. While we shall not analyze the particular models here, the conclusions based upon them preserve their cognitive value. It is true that these models are not perfect, but they are a good indication of price changes in the future. It is true that the models are not perfect, but they are a good indication of price changes in the future.

model path to a higher initial ceiling, with a simultaneous reinforcement of the premises that make a case for price stabilization or even reduction (as natural pricing consequences of demand), given that there are no subsequent breaks in supply.

According to the balance sheet premises, the tendency toward the stabilization of realistic prices will be maintained in the next few years. This is shown by a comparison of the statements of crude-oil producers concerning future export with forecasted changes in demand in the mid-1980's. Although this method of assessment, which we shall call a "balance sheet of intentions" is very simplified and is based on recorded intentions rather than the factors underlying them, it has the advantage that it gives access to the assessments of those participating directly in the market game.

Table 1. Prognoses of Crude Oil Supply and Demand on the World Market in the Mid-1980's

Name of prognosis	Millions of barrels per day	Summary of export intentions ^{a)}	Balance
Workshop on Alternative Energy Strategies-WAES (1977)	36-39		-3.2 down to -6.2 and -0.5 down to -3.5
EXXON Corporation (1979)	34	32.8 down to 35.5	-1.2 through +1.5
International Energy Agency-IEA ^{b)} (1980)	27.5		+5.3 through +8.0

a) The amount of supply is the summary of current changes announced by countries exporting crude oil in the area of the further development of mining and export.

b) The planned imports of 20 countries, plus an estimate of the imports of the remaining countries of the world.

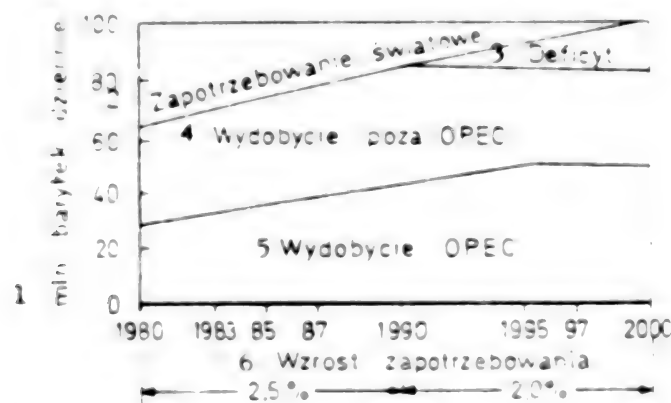
Source: Prepared by the authors using various newspaper articles.

To assess the level of intensity worldwide in the turnover balance of crude oil, we assume that the import needs of CEMA countries (excluding the USSR and USSR's share) on the world market will more or less compensate each other. This assessment averages the prognoses of the ECE and the OECD. It is a preliminary assumption. Three well-known prognoses that illustrate the operation of excess and deficits in consumption volume figure on the supply side.

According to the International Energy Agency estimates of crude-oil import needs, in 1985 the 20 member countries of the International Energy Agency will import 10.5 million barrels per day. If these estimates are too high, the positive crude-oil balance will be even larger. It strikes itself out clearly. In actuality, the positive balance will not be this large, since OPEC countries will limit output and control prices. However, this shows that in the mid-1980's, the world crude-oil market situation will favor price stabilization or even reduction.

Balance sheet estimates based on a more complex prognosis lead to a similar conclusion. In most of these estimates, price movement is conceived as a function of forecast changes in supply and demand. Demand in excess of supply appearing in the prognoses are interpreted as probable points of the manifestation of strong tendencies toward sudden price increases. We cite the example of the 1979 IEA prognosis. In the first version of this prognosis, the gap between supply and demand first appears between 1986-1987. In the second version, which corresponds more to current conditions, the shortage shifts to beyond 1990.

Graph 1. International Energy Prognosis--Optimistic Variant



7 Źródło: „Financial Times” z 29 VI.1979 r.

Key:

1. Millions of barrels per day
2. Worldwide requirement
3. Shortage
4. Extraction outside of OPEC
5. OPEC Extraction
6. Increase in requirement
7. Source: FINANCIAL TIMES, 29 June 1979.

The 1979 IEA program cited here does not take into consideration the clear decline in energy-intensiveness of the increase observed in the past 2 years and the OPEC production decline caused by oversupply, shifting the point of exhaustion of their reserves. If we take these circumstances into consideration, the anticipated point at which their crude reserves will be exhausted is delayed beyond the present decade.

In the optimistic models of the world energy raw-materials market, price trends develop in a manner that generally approaches the results of balance sheet forecasts presented here. Crude-oil prices stabilize in the first half of the 1980's and then begin to increase (although there is considerable uncertainty regarding trends in the second half of the decade).

The facade of OPEC unity should be broken down once and for all. Complex divisions of interests have arisen around the policy of extraction and the ideas of price formation. Countries that in 1973-1974 were able to force through a fourfold price increase (with the help of the international situation), over the years have poured enormous profits into programs of development and expansion. The new demand for funds created by the stream of petroleum earnings guarantees that the development of crude extraction will continue.² The link between crude earnings and the implementation of programs of industrial transformation means that the destructive results of price increases for importer economies also strike a blow at crude producers' own economic plans.

Developing petroleum countries differ in many respects. A graphic representation of these countries in terms of two characteristics--the ability to utilize earnings and from crude export and the reserves they possess--illustrates this problem well:

Graph 2

		Crude resources	
		Limited	Great
Ability to utilize earnings from crude export	Limited	Qatar Kuwait I	Saudi Arabia II Abu Dhabi Libya
	Great	Algeria III Equador Nigeria Indonesia Iran Gabon	Iraq IV Venezuela Mexico

The idea of the chart is drawn from the work of G. Chandler, "Energy: The Search for a Sustainable Future from Scarcity to Scarcity?" Applied Science, 1970, translated in Report of the Institute of Petroleum, London, 1974.

The chart also points out the lines of divided interests within OPEC. Every point of conflict will have to be a compromise between the four groups of countries. Somewhat, the individual policies of these countries will have to be adjusted to fit the oil price issue from their balance of payments and from their ability to absorb export funds.

As the oil price rises, the gap between the two groups of countries will widen. The gap between the two groups of countries will widen. The gap between the two groups of countries will widen.

...tivity of the economic mechanism of highly developed countries and are aware of the repercussions that occur in other segments of the world market. Saudi Arabia, the chief primary force behind the entire policy of the petroleum cartel in recent years, best demonstrates such realism.

Most industrialized countries today are extremely well-protected with instruments to oppose the price dictates of producers. The supply surplus of recent years has enabled industrialized countries to rebuild the reserves they exhausted during the Iranian crisis. Underground storage facilities have attained a record volume of 5 billion barrels, or enough for nearly a half-year without export deliveries.

From the viewpoint of changes in supply, it is also essential that the time possibilities for increasing extraction be clear, given the production capabilities of OPEC countries. This is of dual significance. First, it is a realistic estimate of the margin of security if deliveries from one or several countries are unexpectedly cut off. Second, it is an accurate measure of the pressure operating against the policy of limiting extraction within the framework of the joint OPEC agreement.

According to several American estimates, in 1979 OPEC countries extracted a combined total of 3.9 million barrels less per day than their production capabilities allowed. In December, 1979, the FINANCIAL TIMES gave a higher estimate, putting the combined surplus in OPEC production capabilities at 4.4 million barrels per day.

Even if these estimates are somewhat exaggerated, the margin of potential supply increases is considerable, and it is probably capable of absorbing the consequences of a short-term halt in production in such countries as Libya, Algeria and Iraq. Countries who have major surpluses go into additional extraction. This is confirmed by the present situation in which export decreases due to the Iran-Iraq War have been compensated for by other producers. Very significant surpluses.

On the subject of the world supply range, it is also necessary to note the new possibilities for increasing production. Mexico plans to increase its extraction of oil to 4.5 million barrels per day in 1982. Despite its considerable reserves, it is still a long way from reaching its peak production of 6 million barrels per day. The Soviet Union, which has the second largest reserves, is also far from reaching its peak production of 10 million barrels per day. The United States, which has the third largest reserves, is also far from reaching its peak production of 10 million barrels per day.

It is also necessary to note the possibilities for increasing production in the non-OPEC countries. The United States, which has the third largest reserves, is also far from reaching its peak production of 10 million barrels per day. The Soviet Union, which has the second largest reserves, is also far from reaching its peak production of 10 million barrels per day. Mexico, which has the fourth largest reserves, is also far from reaching its peak production of 4.5 million barrels per day. The United Kingdom, which has the fifth largest reserves, is also far from reaching its peak production of 2 million barrels per day. The Netherlands, which has the sixth largest reserves, is also far from reaching its peak production of 1.5 million barrels per day. The Soviet Union, which has the seventh largest reserves, is also far from reaching its peak production of 1.5 million barrels per day. The United States, which has the eighth largest reserves, is also far from reaching its peak production of 1.5 million barrels per day. The Soviet Union, which has the ninth largest reserves, is also far from reaching its peak production of 1.5 million barrels per day. The United States, which has the tenth largest reserves, is also far from reaching its peak production of 1.5 million barrels per day.

the voluntary limitation of extraction in other OPEC countries is very difficult to implement).

In conclusion, given that deliveries of crude on the world market are uninterrupted, the price movement of this raw material will be limited necessarily to attempts to keep pace with the rate of changes in the purchasing power of clearing-type currencies, with a tendency toward anticipatory price increases related to the rate of debasement of these currencies.

Hard Coal

The petroleum crisis has caused numerous announcements of the increased importance of the role of coal in the world energy balance. Many countries continue to see coal as the most realistic opportunity for reducing their dependence on crude oil imports. However, these announcements have yet to be implemented. Despite its fairly broad potential for substitution, mainly in the fields of electric power generation and industrial heat generation, in the 1970's coal substitution had no real impact on the picture of the worldwide energy situation. Thus, the question of the future of coal in the world economy is still pertinent, especially for countries with considerable coal resources and latent potential.

In the field of electric power generation, the basic area of the potential substitution of coal for crude oil, the increase in the use of coal is slow. An important reason for this is that the prices of liquid fuels used in electric power plants, generally, have not increased on the same scale as the price of crude oil; in the United States, domestic prices of crude have remained at a relatively lower level than world prices. When coal prices increased, it became obvious that the competitive position of coal with regard to crude oil was considerably weaker than assumed initially. This ultimately determined the direction of investment projects undertaken and implemented in the second half of the 1970's, of which a significant number continued to use liquid oil and gas as energy sources.

The most recent and relatively study on the role of the future of coal is the study by the IEA published in 1980. The result of the work of experts from 18 countries, it characterizes the role of coal in the transitional period between the end of the 1970's and the beginning of the 21st century and universal consumption of energy. It is a rather pessimistic prediction that corresponds better to the situation in the 1970's. During this transitional period, which will last at least until the mid-1990's, there will be a marked increase in the use of coal for power plants, the degree of which will depend on the rate of this increase, but it will not be as high as in the 1970's and in the 1980's between a twofold to a threefold increase.

The IEA study also characterizes the role of coal in the future of energy. It predicts with a certain degree of probability that the use of coal in the industrial sector and the electric power sector will increase significantly. A significant increase in the use of coal in the industrial sector is predicted only if the rate of increase in the use of coal in the industrial sector is rapid. In the electric power sector, the use of coal will increase significantly in the future, since the rate of increase in the use of coal in the electric power sector will be higher than in the industrial sector.

source is an extremely long one. If coal is to be the "bridge of the energy future," as the authors of the WWOI report suggest, the material foundations for this must be laid before we achieve the broader bases for forecasting the development of the petroleum market situation and of the nuclear electric power industry.

The prognosis of the development of the world coal market situation has less risk of error than the prognosis of the crude-oil market, since it is highly unlikely that there will be sudden breaks in the coal supply or sudden jumps in price. To a great extent, the laws governing the coal market are the laws of supply and demand.

The dominant feature of the forecast changes in the demand for coal in the 1970's and 1990's is the markedly more rapid increase in turnover of power coal over metallurgical coal, reversing the proportions of the share of both varieties in the structure of worldwide turnover by the end of the present decade. The projected increase in power coal imported by Japan, from about 2 million tons in 1975 to about 50 million tons (minimally) and 120 million tons (maximally) in the year 2000 is of crucial importance to the anticipated change in turnover structure. There will also be a considerable increase in demand for power coal by Italy and France and in the countries of East Asia (mainly Taiwan and South Korea). The increase in demand for metallurgical coal will be more primarily in Japan and in developing countries. Table 2 contains a summary of the volume of the demand for both types of coal during the present decade.

TABLE 2. Forecast demand for coal on the world market in the WWOI Report

Type of coal	1977		1985		1990	
	million tons		million tons		million tons	
Power coal	94	11	104-148	38-43	166-213	47-56
Metallurgical coal	131	67	171-182	62-70	204-212	36-43
Total	195	78	275-330	100	370-425	100

Source: "Forecasting the future," section of the World Coal Study, WWOI, Cambridge, Mass., 1980, p. 106.

The forecast of the world demand for coal in the present decade given in the WWOI report is based on a number of assumptions. In the minimum variant (see Table 2) the forecast of the world demand for coal is 104 million tons in 1985 and 166 million tons in 1990. The forecast of the world demand for coal in the maximum variant is 148 million tons in 1985 and 213 million tons in 1990. The forecast of the world demand for coal in the maximum variant is based on the assumption that the price of oil will rise to \$100 per barrel by the end of the 1970's and that the demand for coal will increase as a result of the development of the nuclear electric power industry.

The forecast of the world demand for coal in the minimum variant is based on the assumption that the price of oil will remain at the level of \$30 per barrel by the end of the 1970's and that the demand for coal will increase as a result of the development of the nuclear electric power industry. The forecast of the world demand for coal in the minimum variant is based on the assumption that the price of oil will remain at the level of \$30 per barrel by the end of the 1970's and that the demand for coal will increase as a result of the development of the nuclear electric power industry.

Table 3. Major Coal Producers' Estimates of Their Coal Export Potential in 1985

<u>Countries</u>	<u>Potential export in millions of tons</u>
Australia	60
Canada	15
China	7
FRG	25
India	7
Poland	45
Republic of South Africa	23
Great Britain	10
United States	68
USSR	37
Others	6
Worldwide	303

Source: W. Peters, H.D. Schilling, "An Appraisal of World Coal Resources and Their Future Availability," World Energy Conference, World Energy Resources, 1985-2020, Guilford, 1978. Quoted in: M. Folie, G. McColl, "Limited Scope for Coal Trade," WORLD ECONOMY, Vol 2, No 3, p 393.

For Poland, this estimate is currently very unrealistic. However, the decline in Poland's coal exports is not a major threat to stability on the world market over the long term, given the tremendous potential for increasing exports of such countries as the United States, Australia and the Republic of South Africa. These three countries will come to dominate coal turnover worldwide during the present and the next decade.

A comparison of the expected increases in the requirement for coal with the export potential of its major producers leads to the conclusion that even a relatively significant increase in the demand for coal can be met. The significant potential for increasing extraction in existing mines in the United States, Australia and the Republic of South Africa is very important here. According to some estimates, the supply pressure from these producers will even create an excess of supply over demand on the two major coal markets--West Europe and Japan.⁸

The decline in the export of Polish coal opens the West and North European markets to producers from abroad whose coal, despite higher transport costs, is only slightly more expensive than Polish coal on these markets. The difference in price is within a range that is permanently acceptable to West and North European importers as a sort of "margin of caution" to compensate for the risk of disrupted Polish deliveries.

The breakdown in Polish coal exports will certainly strengthen the tendency observed in recent years toward diversification of purchasing sources. The extensive WOCOL study cited here contains an interesting projection of the preferences of major importers in the sphere of selection of geographical directions for purchasing coal by the end of the century (Table 4).

Table 4. Forecast Preferences of Importers in the Selection of Sources for Purchasing Coal in 2000

Exporters Importers	Aus- tralia	U.S.	South Africa	Poland	Canada	China	Others	Total Pur- chases
minimum variant								
Worldwide total	140	125	55	70	55	20	95	560
including:								
OECD--Europe	43	28	32	41	13	4	40	201
Japan	45	43	5	1	18	10	10	132
Socialist countries	--	--	--	25	--	--	25	50
maximum variant								
Worldwide total	300	215	105	95	120	30	115	980
including:								
OECD--Europe	106	68	65	62	37	13	51	402
Japan	78	66	6	1	25	16	14	206
Socialist countries	--	--	--	25	--	--	25	50

Source: Based on: "Coal--Bridge to the Future," Report of the World Coal Study WOCOL, Ballinger Publishing Co, Cambridge, Mass, 1980, p 113.

The data contained in Table 4 present the combined estimates of exports from the importing countries taking part in work on the WOCOL report (supplemented with estimates for regions not represented on the research team). It clearly illustrates the growing tendency toward diversification of purchasing sources, especially among West European importers.

The entry of American, Australian and South African coal into the European market means the considerable sharpening of competition on this market. This, combined with diversification of sources of supply, in the future will create considerably more difficult conditions for Polish exports and for eventual attempts to partially regain lost markets.

The increased competition and anticipated surplus of supply over demand will certainly curb coal prices over the long term. The sudden jump in prices that occurred in the first months of 1981 was caused by the coalescence of a number of circumstances disrupting the course of normal deliveries: congestion in American ports, strikes in Australian mines and the breakdown in exports from Poland. Had deliveries from the United States and Australia not been disrupted, the repercussions of reduced deliveries from Poland would have been much less severe. Unlike the situation in Polish mining, the impact of these events, also, on the present price increase is purely temporary. There will also be a concerted thrust of producers from abroad into the European market, which will lead to a decrease in prices and a tendency toward their long-term stabilization on a scale of short-termist terms.

FOOTNOTES

1. There is a broad area of substitution on both sides in the use of petroleum products and natural gas. Hence, the justification of treating them together in this context.
2. The surplus on the crude market, existing from 1974 to 1978, actually caused a decrease in its realistic price by \$1.52 per barrel.
3. The Iranian petroleum minister, Ali Akbar Moinefar, presented this idea in the FINANCIAL TIMES, 18 December 1979.
4. Estimates presented by Akira Oniskii within the framework of the so-called computer prognosis given during a conference organized by IIASA in Luxembourg in 1981.
5. The basis for such a conclusion is given in a special study of the Brookings Institution, which assesses each OPEC member's freedom to manipulate based on the individual requirement for funds in the first half of the 1980's. It points out the challenge to OPEC unity represented by the growing surplus of extraction capabilities of many countries along with a severe shortage of funds for financing development. It is worthwhile noting that the estimates made in the Brookings Institution study coincide for the most part with the prognoses based on the so-called balance sheet approach (in the WAES study, for example). T. H. Moron, "Oil Price and the Future of OPEC," Washington, D.C., 1978.
6. "Coal--Bridge to the Future," Report of the World Coal Study WOCOL, Ballinger Publishing Co, Cambridge, Mass, 1980; most of the statements in this article are based on the results of this report.
7. Documented world coal resources increased in the last decade by approximately one-third. This reflects a revaluation of estimates in the field of coal resources in many countries made after the 1973-1974 petroleum crisis.
8. M. Follis, G. McColl, "Limited Scope for Coal Trade," WORLD ECONOMY, 1979, Vol. 2, No. 3.

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